

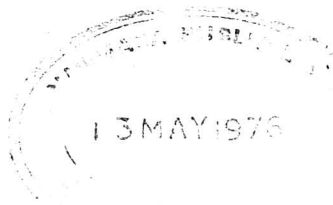


ADMINISTRATIVE REFORMS COMMISSION

REPORT ON THE ADMINISTRATION OF THE DEPARTMENT OF AGRICULTURE

MADRAS

June 1974



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REPORT ON THE ADMINISTRATION OF THE DEPARTMENT OF AGRICULTURE.

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HISTORICAL BACKGROUND.

1.1. The earliest recorded attempt at agricultural development during the British regime dates back to 1790 when certain varieties of cotton from Mauritius were introduced in this State. Formation of the Agri-Horticultural Society in 1835 to promote agricultural improvements, experiments during the period 1842-1853 on such varieties of cotton as New Orleans, Sea Island, and Bourbon, and exhibitions during the period 1855-1859 were some of the subsequent isolated steps taken in this direction.

1.2. In 1863 Sir William Denison drew the attention of the Government to the need for correcting such defects in local agriculture as continuous cropping, the practice of misusing cattle manure as fuel, the use of poor implements and animals, etc. This led to the Government importing from England a set of agricultural implements and machines for purposes of demonstration. In 1865, the Government sanctioned a proposal to set up a model farm by reclaiming 365 acres of land near the Collector's Office in Saidapet and entrusted its management to a Committee of enthusiasts. The Committee obtained the services of an expert farmer from England and conducted trials and exhibitions using the imported machines and implements.

1.3. A review of the activities of this farm by Major-General Cotton in 1868 induced the Provincial Government to initiate steps to put the agricultural development on a more regular footing. A decision was taken to organise four similar farms in Bellary, Coimbatore, Tirunelveli and Ganjam each under the control of an Indian Saidapet Farm. Mr. Robertson. The Farm Committee was dissolved and the Board of Saidapet farm, Mr. Robertson. The Farm Committee was dissolved and the Board of Revenue was given the responsibility to supervise the programme. Though the four farms were not set up for one reason or another, the difficulty in getting qualified Farm Superintendents led to the establishment of the College of Agriculture in 1876, to train Indians in this field. The College was under the charge of the Superintendent of the Saidapet Farm, who was brought under the control of both the Director of Public Instruction and the Board of Revenue for this purpose, Thus till 1881, the Board of Revenue, assisted by the Superintendent of the Saidapet Farm, was looking after the agricultural development work.

1.4. A separate Department for Agriculture was organised by the Provincial Government in 1882 based on the recommendations of the Indian Famine Commission (1880). The Director of Settlement and Agriculture was redesignated as Commissioner for Revenue Settlement, Land Records and Agriculture. In 1884, the College of Agriculture was brought under the exclusive control of the Director of Public Instruction and another officer Mr. Benson was appointed as Superintendent of the Farm and as Agricultural Reporter to the Government. The Government also decided to abandon the farm in Saidapet and not to organise farms any more, but to concentrate on conducting experiments in the field of private individuals and to study intensively local agricultural practices and farm management with a view to introduce better methods wherever necessary. Thus Saidapet Farm was given up in 1886, and transferred to the Agricultural College as annexe. The post of the Agricultural Reporter was also redesignated as Assistant Director of Agriculture. In 1888 the Department of Agriculture and that of Cattle Diseases were amalgamated. The red rot attack on the sugarcane crop in Godavari District in 1898 led to the appointment of a Government Economic Botanist to tackle the problem of pest control. In 1900 the Government reverted to the practice of setting up Government farms and ordered the establishment of two at Bellary and Koilpatti under the control of a Deputy Director. In 1904 the Government decided to transfer the responsibility for agricultural education from the Director of Public Instruction to the Director of Agriculture and also to establish a Research and Teaching Institute at Coimbatore and to close down the Agricultural College and the Farm at Saidapet. It was in 1906 that the Agricultural Department, so to speak, came of age as it acquired such officers as Director of Agriculture, Principal of the Agricultural College, Coimbatore, Agricultural Chemist, and several Agricultural Inspectors. By 1911, the Department acquired the services of a Government Mycologist

and a Government Entomologist. Nevertheless the Department continued to be made the general control and supervision of the Board of Revenue, till 1916, when it was brought under the direct control of the Revenue Department. In 1922 the entire work relating to Sericulture was transferred from the Agriculture to Industries Department. In 1930 the posts of District Agricultural Officers were created and each taluk was sought to be provided with an Agricultural Demonstrator and a Maistri. In 1924 the Indian Agricultural Service was given up and all the posts held in that service were transferred to Madras Agricultural Service. The economic depression in 1923-30 resulted in large scale retrenchment in the Department, and in the number of District Agricultural Officers being reduced and redesignated as Assistant Directors. In 1940 the Livestock Section of the Department was transferred to the Veterinary Department.

1.5. Since 1941 the Department expanded considerably and underwent several re-organisations. In 1941 the State was divided into 2 Circles each under the charge of a Deputy Director. Each district was given a District Agricultural Officer, who was made the Collector's assistant in agricultural matters to ensure better co-ordination. The Collector was also made responsible for the agricultural programmes in the District. In 1942 the number of Circles was increased to 3. Postwar development efforts and 'grow more food' campaigns led to a considerable expansion in the activities of the Department. In order to ensure better distribution of seeds and manures, better control of pests and diseases of crops and to promote horticulture, the Government provided (besides the Agricultural Demonstrator in each taluk) two Maistries for each Firka, one Fieldman and one Agricultural Depot with a Demonstration Maistry and two Watchmen for every 2 Firkas, and one Clerk for each Taluk Depot. In 1946 an Agricultural Engineering Branch was created to encourage the use of tractors and modern agricultural implements.

1.6. After the separation of Andhra, this State was left with 4 regions each under the charge of a Deputy Director and each consisting of 3 or 4 districts. In 1954 a decision was taken to get the entire work of the Department in the area covered by the Community Development Blocks, through the Agricultural Extension staff attached to the Block, to avoid duplication of staff and overlapping jurisdictions. In 1957 the Agricultural College was upgraded and the post of the Principal was converted into that of a Dean and ex-officio Additional Director (Research). In 1958 the work of pumping and boring for wells was transferred from the Industries to Agriculture department as a consequence of which the Agricultural Engineering Branch expanded considerably. With the constitution of Panchayat Unions during the period 1958-61, each Panchayat Union was provided with one Extension Officer (Agriculture) in the grade of a Deputy Agricultural Officer, one Compost Development Inspector, one Agricultural Assistant, 2 Demonstration Maistries and one Depot Clerk. Subsequently the jurisdiction of the District Agricultural Officers was also gradually reduced to be generally **coterminous with revenue divisions** to enable the District Agricultural Officer to cope with the increased volume of work.

1.7. In the Secretariat, control over the Department of Agriculture shifted from the Revenue to the Development Department and later on to the newly organised Agriculture Department. In 1949-51 the Commissioner of Civil Supplies in the Board of Revenue was designated as Commissioner of Food Production and was given the responsibility to co-ordinate the activities of departments the Agriculture, Animal Husbandry, Co-operation, Irrigation, Fisheries, Forests, etc., and to ensure the timely availability of inputs like fertiliser and credit. Till 1956, he had also secretariat responsibilities which were later transferred to the Secretary to Government in the Agriculture Department. Major developments in the Department since 1960 include the implementation of the Intensive Agricultural Development Programme in Thanjavur District, the IAAIP in 5 other districts and the execution of the Indo-German Agricultural Development Project, in Nilgiris District. The introduction of HYVP programme in 1968-69 ushered in the so called green revolution in paddy. The work relating to higher agricultural education and basic research came to be transferred to the Agricultural University established in Coimbatore in 1971. Thus the Department as it stands today has major responsibilities in such areas as adaptive research, extension,

plant protection and distribution of seeds, quality control of seeds, pesticides and fertilisers, soil conservation, water management, agricultural engineering, etc. It continues to have most of its research stations which conduct fundamental as well as applied research. Its responsibilities include also the running of model farms, training the farmers and running the Agricultural Schools for the sons of farmers.

1.8. It is a major development department operating an annual budget of Rs. 27.86 crores in 1973-74. Its annual receipts from trading operations amounted to Rs. 13.21 crores in 1973-74. The department employs besides one Director, 2 Additional Directors and 12 Joint Directors, 2,711 gazetted technical personnel at various levels. The strength of its gazetted non-technical establishment and non-gazetted personnel (both technical and non-technical) is of the order of 14,308.

PERSPECTIVES IN AGRICULTURAL ADMINISTRATION.

2.1. Agriculture plays an important role in the economy of this State. Tamil Nadu, like the rest of the country, derives the major portion of its State income from the primary sector. In 1971-72 the primary (agricultural) sector accounted for 42.94 per cent of the State income. 61.70 per cent of the working population in the State is engaged in agricultural work.

2.2. The geographical area of the State is 13 million hectares of which the net sown area (6.4 million hectares) is slightly less than 50 per cent. About 20 per cent of the net sown area (i.e., 1.3 million hectares) is cropped more than once. Out of the gross cropped area of 7.7 million hectares, 74 per cent is under food crops. 2.7 million hectares representing 36 per cent of the gross cropped area are under paddy. There has been no major variations in this pattern over the last 10 years as can be seen from the following:

				1960-61	1971-72
				(Area in million hectares.)	
Geographical area	..	..	..	13.02	13.01
Net sown area	..	..	..	6.00	6.40
Area sown more than once	..	..	..	1.30	1.30
Gross cropped area	..	..	..	7.30	7.70
Area under food crops	..	..	..	5.50	5.70
Area under non-food crops	..	..	..	1.80	2.00

The area cropped more than once has also remained static over this period.

2.3. About 50 per cent of the gross cropped area is irrigated. Over the last 20 years there has been some increase in the irrigated area largely on account of the increased exploitation of ground water through wells.

				1951-52	1961-62	1971-72
				in million hectares.		
Net irrigated area	..	..	..	2.0	2.5	2.7
Area irrigated more than once	..	..	..	0.5	0.7	0.8
Gross cropped area irrigated	..	..	..	2.5	3.2	3.5

2.4. Agricultural production Index for all crops has risen by 30 points in 10 years from a base of 100 in 1960-61. In respect of food and non-food crops the indices rose in the same period by 34 points and 26 points respectively. Among the food crops the production of rice was fluctuating between 3.5 million and 4 million tonnes during the period 1960-61 and 1969-70, and would appear to have taken a definite upward trend afterwards. The production of other cereals has actually declined, while the production of pulses appears to follow a pattern similar to that of paddy.

(Quantity in million tonnes)

	1960-61	1965-66	1968-69	1969-70	1970-71	1971-72
Rice	3.6	3.5	3.6	4.0	5.0	5.3
Other cereals	1.7	1.4	1.4	1.6	1.6	1.5
Pulses	0.114	0.102	0.106	0.109	0.133	0.197

2.5. In respect of non-food crops like cotton and groundnut and cash crops like sugar cane, the production trend is one of fluctuations within a static band, as can be seen from the following :—

	1960-61	1965-66	1968-69	1969-70	1970-71	1971-72
Quantity						
1000 bales						
Cotton:	374	301	250	324	323	388
1000 tonnes						
Groundnut:	1057	823	798	804	989	954
1000 tonnes						
Sugarcane (gur):	686	955	1514	1190	1074	996

2.6. Increased production in respect of rice is attributable to increased productivity while the productivity in respect of other crops have remained largely indifferent.

	Yield in Kgs. per Hectare					
Crops	1961-62	1965-66	1968-69	1969-70	1970-71	1971-72
Rice	1540	1409	1502	1593	1900	1973
Cumbu	627	588	629	675	522	688
Redgram	454	456	457	463	458	295
Sugarcane (gur):	8360	7363	8813	8593	9234	8231
Cotton	174	169	163	207	196	223
Groundnut (in shell)	1217	860	857	897	972	1015

2.7. The increase in the productivity of rice has also considerable all-India significance. While this State has the 7th largest rice producing area, it ranks first in productivity and third in quantity produced in the country.

	Area in million Hectares.	Yield in Kg./Hectare.	Production in million tonnes.
All India	37.4	1134	42.4
Tamil Nadu	2.7	1973	5.3

2.8. The increases in the production of rice is largely attributable to the use of high yielding paddy seeds. The considerable expansion in agricultural credit, and increased availability of fertilizers and pesticides have also contributed to this. Institutionalised agricultural credit has expanded from Rs. 20.82 crores in 1961-62 to Rs. 140.03 crores in 1971-72. Chemical fertiliser consumption had followed the pattern shown below :—

	(Quantity in lakh tonnes)		
Year	Nitrogen	Phosphorous	Pottasium
1961-62	0.33	0.08	0.04
1965-66	0.72	0.27	0.18
1968-69	1.13	0.35	0.31
1971-72	2.14	0.71	0.61

2.9 The price of foodgrains has been rising steadily over the last 12 years and even the month-to-month fluctuations in price would appear to have become marginal, as seen from the following :—

	(Movement of Foodgrains Wholesale Price Index)											
Year	1961	62	63	64	65	66	67	68	69	70	71	72
Index	602	587	565	676	694	702	732	786	842	947	1061	1112

(Base 1939—100)

Monthly movement of foodgrains
Wholesale.

Price index in 1972

Month	Jan,	Feb.	Mar.	Apr.	May	June	July
Index	1141	1066	1043	1057	1098	1102	1120
Month	Aug.		Sept.	Oct.		Nov.	Dec.
Index	1136		1125	1144		1158	1152

In respect of cash crops like cotton and oil seeds, however, price fluctuations would appear to have been violent enough to influence the quantum of production.

2.10. The priority given to Agricultural development in the State Plan allocations can be seen from the following :—

	Size of the State Plan	Outlay on agriculture	Per cent
I Plan	Rs. 80.39 crores	Rs. 8.42* crores	10.4 *
II Plan	187.76	5.59	2.9 *
III Plan	347.15	15.47	4.4 *
IV Plan	623.67	35.58	5.6 *

* This includes outlays on minor Irrigation.

2.11. Annual expenditure for agricultural development which stood at Rs. 21.07 lakhs for the Composite State in 1937-38 has risen to Rs. 21.04 crores in 1972-73.

2.12. It is interesting to compare the outlay on agriculture by the State Government with the State income from agriculture over the period 1960-72.

Year.	Total outlay on agricul- ture.	Total receipts of agriculture. depts.	Of which the cost of estimate.	Total foodgrain output in million tonnes.	State income from agriculture in Rs. Crores	
					at current prices	at 60-61 prices
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1960-61	3.62	2.26	1.10	5.4	496	496
1965-66	13.52	3.61	2.48	5.0	539	428
1966-67	13.36	4.17	3.28	5.5	661	438
1967-68	15.82	5.71	3.12	5.4	655	437
1968-69	16.98	5.61	3.70	5.1	638	430
1969-70	20.09	7.96	3.90	5.7	733	449
1970-71	19.10	7.08	4.86	6.7	846	535
1971-72	22.27	9.55	6.82	7.0	1021	556
1972-73	26.34	10.19	6.38	7.0	NA	NA
	(RE)					
1973-74	25.65	10.93	6.85	NA	NA	NA
	(BE)					

NA—Not Available.

(RE)=Revised Estimates.

(BE)=Budget Estimates.

The State income from agriculture has nearly doubled itself in 12 years at current prices, while the gross outlay on agriculture has risen by 7 times. The net outlay during the same period has risen by 11 times.

2.13. Various agencies in the State are engaged in agricultural development work. The Agricultural University established in 1971 undertakes fundamental and applied research and higher teaching. The Co-operatives provide agricultural credit, distribute fertilisers and market a great deal of the produce. The national banks also provide agricultural credit. The irrigation needs are attended to by the Public Work Department and by the Panchayat Unions. Power for lifting water is provided by the Tamil

Nadu State Electricity Board. The work relating to the fixation of agricultural prices and the procurement and distribution of foodgrains is attended to by the Food Department and its agencies like Civil Supplies Department and State Civil Supplies Corporation. Food Corporation of India plays a leading role in price support and buffer stock operatives including the co-operative Sugar and Spinning Mills attend to the processing operatives including the co-operative Sugar and Spinning Mills attend to the processing of the agricultural raw materials. The Directorate of Sugar attends to the work of regulating cane supplies and promoting sugar production. The principal work of modernising agriculture through extension is attended to by the Department of Agriculture, the administration of which is proposed to be dealt with in this Report.

ORGANISATIONAL STRUCTURE.

(i) *Present Structure.*

3.1. In the secretariat there are separate departments for Agriculture, Forests, Food and Co-operation. There are also separate ministers for these subjects. The secretariat department of agriculture presided over by a Secretary deals with Agriculture and Animal Husbandry. The Secretary is assisted by three Deputy Secretaries, and six Assistant Secretaries. The department has 31 sections with 31 Section Officers and 72 Assistants.

3.2 The co-ordination between agriculture and allied departments in the Secretariat is provided by the Chief Secretary and the Secretariat mechanism of inter departmental consultation. The co-ordination at the level of heads of departments between the departments of Agriculture, Co-operation, Irrigation, Revenue etc. is expected to be provided by the Food Production Commissioner. He is a member of the Board of Revenue and is assisted by a Secretary, three Assistant Secretaries, One Senior Accounts Officer and 15 Sections with a total staff of 106 persons.

3.3 The department of agriculture is presided over by a Director, who is usually an I.A.S. Officer as the post is borne on the State Cadre of that service. There are separate wings in the department for Extension, Research, Agricultural Engineering, Accounts and Administration, with separate cadres of their own. The Agricultural Engineering wing consists of one Chief Engineer, one Joint Director (Engg) four Deputy Chief Engineers, 18 Divisional Engineers, 69 Assistant Engineers, 191 Junior Engineers, 352 Supervisors and 3,392 members of the subordinate staff. Its responsibilities include soil conservation, water management, sinking of tube wells, bore wells and filter points hiring of 148 tractors and 156 crawlers to the ryots, and managing six agricultural engineering workshops, 1 central store, and 2 mobile servicing units.

3.4. The research wing headed by an Additional Director and consisting of one Chief Scientist, 17 Crop Specialists, 99 Assistant Research Officers, and 336 Deputy Agricultural Officers (Research) has the responsibility for undertaking agricultural research (both fundamental and applied) in the 25 agricultural research organisations under its control. It has also the responsibility for undertaking, National Demonstrations. The Additional Director, Research, who has his Headquarters at Tiruchi has also been made responsible for the administration of five farmers' training centres, 14 Agriculture Schools and for the in-service training of the senior technical offices of the department. Each of the Farmers' Training Centres has one Deputy Director, two District Agricultural Officers and other staff. Each of Agriculture schools has one Deputy Agricultural Officer.

3.5. The accounts wing consists of one Financial Adviser and Chief Accounts Officer, seven Senior Accounts Officers, and 22 Audit parties, and has responsibility for the reconciliation of accounts, inter-unit adjustments, internal audit and financial advice. The Chief Accounts Officer and two Senior Accounts Officers are in the Headquarters while five Senior Accounts Officers and 22 Audit parties are distributed over five regions covering the State.

3.6. The administrative wing consists of one Joint Director in the grade of a District Revenue Officer, 15 Administrative Officers, 29 Gazetted Superintendents 265 Superintendents. 1173 Assistants and 1475 Junior Assistants besides 111 stenos, 431

typists and 1,089 miscellaneous staff. The administrative wing is not organised vertically; its members other than the Joint Director are distributed in the other four wings at various levels to service them.

3.7. The extension wing with a total staff of 7,935 persons is by far the largest among the five. It consists of one Additional Director, 11 Joint Directors, 44 Deputy Directors, 195 District Agricultural Officers, 1,737 Deputy Agricultural Officers, 381 Compost Development Inspectors, 657 Village Level Workers, 1,695 Agricultural Assistants and 3,357 Demonstration Maistries. Its responsibilities include agricultural extension, production and distribution of improved seeds, supply of chemical and pesticides, soil analysis, plant protection, quality control, agronomy and adaptive research, farm management advice and estimation of fertiliser and credit needs.

3.8. The organisation of the extension wing is partly territorial and partly functional. In the portion organised territorially the Director assisted by a number of Joint Directors at the Headquarters is the State level authority. The next level is a region consisting of two or more Revenue districts and presided over by the Regional Deputy Director. There are five such regions with Headquarter at Madras, Coimbatore, Tiruchi, Madurai and Tirunelveli. Each Regional Deputy Director is assisted by one administrative officer, four District Agricultural Officer rank subject matter specialists for Plant protection, agronomy, Compost development and Information and four Deputy Agricultural Officer level Officers for such items of work as fertiliser control order, plant protection, pulses and high yielding variety of paddy.

3.9. The next level in the hierarchy is that of the District Agricultural Officer whose territorial jurisdiction is generally coterminous with the revenue division. There are 43 such District Agricultural Officers covering the 48 revenue divisions in the state. Each District Agricultural Officer has four Deputy Agricultural Officers and eight Demonstration Maistries to assist him in respect of High Yielding Variety of paddy, plant protection, pulses, Horticulture, and miscellaneous work.

3.10. The next and the lowest administrative level of this hierarchy is that of the Deputy Agricultural Officer (Extension) attached to each of the 374 Panchayat Unions in this State. The Deputy Agricultural Officer (Extension) is controlled administratively by the Panchayat Union Commissioner and technically by the District Agricultural Officer. He has under his direct control one Compost Development Inspector, one Agricultural Assistant and two Demonstration Maistries. He gets his extension work done through the 10 Gramasevaks (who are multipurpose workers) attached to the Panchayat Unions and controlled by the Panchayat Union Commissioner. Gramsevak thus provide the first level contact for the department with the ryots.

3.11. The hierarchy thus is one with vertical and unitary control up to the level of District Agricultural Officers. The two levels below this, viz., Deputy Agricultural Officers and Gramsevak are subjected to dual and multiple controls. This arrangement at the field-level, is meant to ensure close co-ordination of Agricultural schemes with allied development works with the participation of the elected local leaders.

3.12. The organisation is slightly different in Thanjavur and Nilgiris districts, where IADP and Indo-German project respectively are in operation. The district organisation in Thanjavur is presided over by a Project Director in the grade of Joint Director. He is assisted at his Headquarters by three Subject matter specialists in the grade of Deputy Directors for agronomy, plant protection and farm management and by a fourth subject matter specialist in the grade of a District Agricultural Officer for information. In the field there is a District Agricultural Officer for each of the six revenue divisions and each Panchayat Union is given four Deputy Agricultural Officers and 20 Gramasevaks. The work of the soil testing lab, the research stations, and the farm training centre and the engineering workshop is co-ordinated by the Project Director. A special cell directly under the control of the Director of Statistics attends to the Project evaluation work in co-operation with the Project division.

3.13. In Ooty the project is directed by a Joint Director who heads a team consisting of agronomist, Agricultural Engineers, Seed Farm Specialists, Horticulturists, Soil Conservation Engineers; Soil Chemists, etc. This team is guided by a team of West German agricultural experts.

3.14. In the districts in which IAAP is in operation, each Panchayat Union has two Deputy Agricultural Officers and 15 Gramasevaks instead of the usual compliment of one Deputy Agricultural Officer and 10 Gramasevaks. IAAP is in operation in Chingleput, Coimbatore, Madurai Tiruchirappalli and Tirunelveli District.

3.15. Besides this vertically organised territorial hierarchy, there are several sets of special staff organised in parallel hierarchies, for the promotion of specific crops like sugarcane, oil seeds, cotton, coconut, fruits, vegetables and tobacco; for management of State seed farms; for the certification of seeds, for the standardisation, grading and marketing of agricultural produce; and for special projects such as multiple cropping, Integrated Dryland development, etc. Most of the special staff work in vertical hierarchies with no horizontal linkage with the regular field staff under Regional Deputy Directors and District Agricultural Officers.

3.16. The striking feature of the present organisation of the extension wing is that the strength of the staff engaged in special items of work is more than twice that of the staff for primary/extension work, as can be seen from the following statement :

Rank.	Number engaged in regular work.	Number engaged in special work.
Additional Director	1	1
Joint Director	3	8
Deputy Director	5	39
District Agricultural Officer	43	152
Deputy Agricultural Officer	374	1,363
Compost Development Inspectors	373	..
Agricultural Assistants	377	1,318
Demonstration Maistries	810	2,027
Plant Protection Mechanics .. ..	..	64
Total ..	1,986	4,972

3.17. The existence of a small regular Hierarchy and a number of isolated special hierarchies co-ordinated only at the State level, has led to the creation of a large and sprawling headquarters organisation and to a high degree of centralisation of the work relating to planning, direction, administration and accounts. Thus the Headquarters organisation has besides the Financial Adviser-cum-Chief Accounts Officer and the Chief Agricultural Engineer, 10 Joint Directors for such items of work as Planning, Administration, Seed Farms, Extension, IAP, Pulses, Multiple cropping, Inspection and general, Oil seeds, and Commercial crops. These 10 Joint Directors are assisted by seven Deputy Directors, 10 District Agricultural Officers and 15 Deputy Agricultural Officers. There are 45 sections in the directorate consisting of 44 Superintendents, 156 Assistants, 52 Junior Assistants, besides several Stenos, Typists and others.

(ii) Need for re-structuring the department.

3.18. The present structure has the characteristics of an organisation which had grown over the years haphazardly on an ad-hoc basis. There are too many parallel and vertical lines of control without any horizontal linkage resulting in a high degree of centralisation of powers at the head office.

3.19. There is no linkage among the several vertically organised groups of special staff engaged in the development and propagation of specific crops, except at the level of the Directorate. Similarly there is no institutional co-ordination at the regional and district levels and below among the several branches engaged in extension, research agricultural engineering, farmers training etc. This has rendered intelligent and comprehensive area planning difficult.

3.20. Districts in Tamil Nadu State are large and many of them contain more than one agroclimatic tract. This being the case regions containing more than two such Districts can hardly be considered as compact tracts for area planning. Even at the regional level most of the activities of the department are not co-ordinated. The highest level at which some meaningful area planning can be attempted is the district and in the present set up there is no office at this level to plan and co-ordinate the activities of the various branches of the agriculture department.

3.21. The present situation results in local problems, which should normally be resolved at the district level, going up to the Directorate for solutions. It also results in a great deal of confusion and inconvenience to the ryots who have to deal with several sets of officers for advice even on simple problems.

3.22. In the present arrangement the services of subject matter specialists are not available for all districts. Agronomists and Information Officers are confined only to the IAAP districts while plant protection and compost development experts attached to the Regional Deputy Directors cover too vast an area to be effective. In the crop-oriented special hierarchies there are no subject matter specialists at all. The largest area in respect of which a set of subject matter specialists can be effective is the revenue district. Besides the need for providing each district with subject matter specialists, there is also a need for allowing them to specialise in their respective disciplines.

3.23. The officers engaged on Special crops and schemes are freely interchangeable at present with those engaged in the regular work. It is not as if experienced Crop specialists, with expert knowledge are allowed to attend continuously to the work relating to the particular crop. The District Agricultural Officer (Sugarcane) of today may be posted tomorrow as District Agricultural Officer (Cashewnuts) or District Agricultural Officer (marketing) or as a Regular divisional District Agricultural Officer. The present arrangement is thus not justifiable on grounds of technical specialisation.

(iii) Proposed structure.

3.24. The Commission is of the view that the agriculture department should be reorganised to enable the creation of self contained units (at the Taluk and District levels) capable of handling all the crops and all the schemes relating to the department in their respective jurisdiction. Special hierarchies may be confined to a few select activities only such as seed production and research, agricultural engineering, Quality control, etc., but even these activities should be co-ordinated with the extension work at the district level.

District level :

3.25. Each revenue district may be provided with a Chief Agricultural Officer in the grade of a Joint Director. Smaller districts like Kanyakumari, Nilgiris (after the completion of the IGNDP), Madras, Pudukkottai and Dharmapuri may have this office in the grade of Deputy Directors. The Chief Agricultural Officer may be given, the following assistants :

- (a) One administrative officer
- (b) One accounts officer
- (c) One Officer for planning, monitoring and evaluation, of the departmental work in the district; and
- (d) One Specialist each for agronomy, plant protection and Information.

3.26. The administrative Officer will look after such functions as office administration, Personnel administration and general administration. The accounts Officer will handle the work relating to compilation of accounts, financial advice, and the follow-up of audit objections. The other 4 officers will be in the rank of Deputy Director or District Agricultural Officer depending on the availability. In the smaller districts

there will be Officers of the District Agricultural Officer grade. The officer in charge of planning, monitoring and evaluation will prepare the detailed plan of work for the department in the district every year, keep track of the progress made in relation to targets and also evaluate select schemes, before repeating them in subsequent years. The agronomist will have the responsibility for adaptive agronomic research. The findings of the university or other research institutions relating to the package of practices for growing any crop will be modified by him in the light of actual adaptive trials conducted by him in several representative fields in each of the agro-climatic regions in his district. The plant protection specialist will also participate in the adaptive trials from the point of view of modifying the pest control practices in the light of the pest conditions in the various agro-climatic tracts in his district. Besides this, he will also be responsible for forecasting the requirements of pesticides and connected equipments for the district for the subsequent year. The information officer will handle the work of the bringing all new developments to the notice of ryots through fairs, exhibitions, festivals and mass media like Radio, cinema, hoardings etc. He will also be in charge of organising seminars and training programmes for periodically briefing the Deputy Agricultural Officers and Gramasevaks working in Panchayat Unions.

3.27. The Chief Agricultural Officer will be the representative of the Director in the district and all the activities of the department in the district will be coordinated by him. The Divisional Agricultural Engineer in charge of Soil Conservation, Water Management, sinking of wells and farm mechanisation the engineer in charge of Agricultural workshops, research institutes, farmers training centre and agricultural schools. Quality control and regulated markets and soil analysis in the district will all be under the administrative control of the Chief Agricultural Officer and will be responsible to him in formulating and carrying out the plan of work for the entire department in the district. They will be technically supervised in their work by the higher officers in their own hierarchy. This arrangement is the only way by which the work of the various branches of the department can be made to subserve the central departmental objectives which may be laid down from time to time for each district.

Taluk level :

3.28. A similar coordination will be effected at the Taluk level by the District Agricultural Officer. The jurisdiction of the District Agricultural Officer may be reduced from the revenue division to that of a Taluk and he may have besides administrative and accounts assistants, 3 Deputy Agricultural Officers for Agronomy, Plant protection, and Planning. These specialists in the taluk level will play the same roles as those of their counter parts at the district level.

3.29. The Chief Agricultural Officer at the district level may be designated as Joint or Deputy Director, depending on his rank and the District Agricultural Officer in charge of the Taluk may be redesignated as Assistant Director. The District and Taluk units will look after all crops and all special schemes and the staff now engaged in such work may be redeployed in the reorganised set up. When the redeployment is done as envisaged by the Commission there will be on an average 6 Deputy Agricultural Officers for each Taluk besides the Deputy Agricultural Officers and staff employed in the Panchayat Unions, and the subject matter specialists attached to the Assistant Director. But it may not be necessary to keep all the 6 Deputy Agricultural Officers in same Taluks. The total number of Deputy Agricultural Officers in position at present may be distributed among the 116 Taluks taking into account the work load, diversity and intensity of cropping. They may be redeployed either territorially or functionally. There could be a cropwise and scheme-wise deployment of the Deputy Agricultural Officers within the Taluk to reflect the local importance attached to particular crops and schemes.

3.30. Annexure No. I shows the present distribution of the staff in the department. In Annexure No. II one possible method of redistributing them to achieve the pattern described above has been indicated. It may be seen that the additional staff required is insignificant, and can well be accommodated within the normal growth of the department.

3.31. The model of re-organisation suggested in Annexure No. 11 is on the basis that even the staff of the KKARI at Kudumiamalai will be taken over and redistributed. An alternative to this can also be thought of. The post of Joint Director in KKARI may be taken away for the redistribution. The rest of the officers may remain at KKARI and service both Tiruchirappalli and Pudukottai districts in which, then, the need for appointing subject matter specialists in Plant Protection, Agronomy, Farm Management and Agro-economics, Information at the district level will disappear. In other words the subject matter Specialists available at KKARI will service both the districts.

3.32. Again the model presumes that 696 Deputy Agricultural Officers will be uniformly distributed over 116 Taluks at the rate of 6 each. This is not the only way of redistributing the staff. Redistribution may, for example, follow the importance of areas. The taluks in IADP districts may have 8 each, those in IAAP districts 6 each and those outside may have less than 6 each. The actual distribution may follow the guidelines to be given by the Government.

3.33. In the year 1974-75, the Budget Estimates for the Department of Agriculture provide a sum of Rs. 25.32 crores. Out of this a sum of Rs. 16.33 crores are meant for Plan Schemes. Centrally sponsored Schemes to the value of Rs. 78 lakhs and Central Sector Schemes to the value of Rs. 9.05 lakhs are included in the Plan Schemes. In respect of Centrally sponsored and Central Sector Schemes, the Government of India prescribes specific staffing patterns and regulate their assistance to the State Governments to the extent the latter follow the staff pattern. The re-organisation proposed by the Commission for the Agriculture Department may be objected to by some on the ground that it involves the pooling and re-deployment of even the staff engaged in some of the centrally sponsored and Central Sector Schemes. This objection need not however be taken seriously. The specific disability of having to conform to set staff patterns in order to claim Central assistance in respect of any Government scheme never lasts beyond a Plan Period. At the end of the current Plan, all these schemes are transferred as State Schemes and the disability disappears. It should therefore be possible for the State Government to inform the Government of India that prior to the re-organisation, they had the staff in position as prescribed by the Government of India and that the staff had been pooled and re-organised to promote better efficiency and that on this ground the State Government may be allowed to continue to enjoy the assistance the Central Government had extended to them before the re-organisation.

3.34. Incidentally, the State Government should not acquiesce in the practice of the Central Government stipulating specific staff patterns and methods of work for qualifying for Central assistance in respect of any Scheme. The Central Government in a federal set up will no doubt have the responsibility to lay down priorities and influence the investment decisions of the State Government, if necessary, even with monetary leverage. But this does not necessarily confer on them the right to interfere in the internal working of the State Government Departments by insisting on specific staff patterns ignoring such considerations as whether the additional staff is necessary, whether the pattern proposed will clash with the existing traditions of the Departments, whether the creation of such additional units will result in a lack of role-clarity for a number of similarly placed officers, etc. Bulk of the staff now engaged in Centrally sponsored and Central Sector Schemes would not have been sanctioned by the State Government on the norms they adopt for workloads at various levels. The sanctioning of staff on a liberal scale for the Central Sector Schemes and Centrally sponsored Schemes have the effect of upsetting the frugal and economic norms adopted by the State Government in their normal work and also create internal indiscipline in the Departments (in a limited sense of the term). Even the rationale for certain staff patterns are very difficult to understand. For example, while there is a well equipped set of staff looking after promotion of groundnut cultivation in the relevant parts of the State, the need for creating another set of staff specifically to look after the cultivation of groundnut of quality suitable for export is not easy to understand. It is very difficult to imagine how the work can actually be divided among two sets of staff. The State Government may therefore take up with the Central Government the issue relating to the need for dispensing with this kind of approach to the centrally sponsored and Central Sector Schemes.

3.35. The reorganisation suggested above will facilitate area planning and give the department near autonomous and self contained district and taluk units with a clear line of control.

3.36. It may be desirable to add two more specialists, one for farm management studies and another for agricultural economics to the District Units. The former will study the economics of individual farms covering such aspects as the relationship between the size of the farm, extent of mechanisation, labour productivity, agronomic practices, cropping pattern and the return from the farm. These studies undertaken periodically will help the formulation and modification of the strategy of development at the district level. The agricultural economist will take a macro-economic view of the agricultural operations in the district as a whole and their relationship to the general economy of the district and will help in formulating district agricultural objectives such as the distribution of areas and efforts between food crops and cash crops, extent of farm mechanisation, desirable quantum of agricultural output, etc. The Agricultural University has post graduate courses in these disciplines and as and when the finances of the state permit these specialists may be added to the district teams in a phased manner.

Block level :

3.37. Increasing food production was envisaged as a major responsibility of Panchayat Union Councils when production functions were entrusted to these elected bodies under the new Panchayat Act. For this purpose they were given one Deputy Agricultural Officer from the Agriculture Department. The 10 Gramasevaks attached to each Panchayat Union were multi-purpose workers, but they were expected to concentrate on agricultural extension work. Bulk of the extension work relating to food crops, was sought to be done through these Gramasevaks under the supervision of the Deputy Agricultural Officer attached to the Panchayat Unions. Extension work relating to non-food crops, was done by the Agriculture Department through its own special staff outside the control of Panchayat Unions. The Agriculture Department had no direct control over the Gramasevaks. The Department had technical control over the Deputy Agricultural Officer but he was administratively responsible to the Panchayat Union Commissioner and the Panchayat Union Council. In its report on Panchayat Development Administration, the Commission has explained the handicaps of the Agriculture Department on account of its lack of direct control over field-workers, through whom it was expected to reach the farmer.

3.38. The existing institutional arrangements are not adequate to motivate Gramasevaks to show special interest and competence in agricultural work. As multipurpose workers, their freedom to concentrate exclusively on agriculture is limited. The Agriculture Department had therefore sanctioned additional departmental staff under the Deputy Agricultural Officer of the Union for its essential priority works. Thus each Deputy Agricultural Officer was given one Agricultural Assistant and 2 Demonstration Maistries, besides Depot Clerks and these men were directly responsible to the Department.

3.39. When agricultural production was sought to be stepped up through special programmes like IADP, IAAP, HYVP, etc., additional field staff was sanctioned. How exactly this additional staff should be deployed and to which agency it should be subordinated, are questions on which the views of the Government have been changing from time to time on a "Trial and error" basis. The special staff of 3 Deputy Agricultural Officers and 10 village level workers sanctioned for each IADP Block, were attached to the Panchayat Unions of the IADP District. Thus, IADP Blocks have 4 Deputy Agricultural Officers and 20 Gramasevaks. The 10 additional posts of village level workers for each IADP Block were filled in by increasing the intake of Gramasevaks.

3.40. When the IAAP was sanctioned, each Panchayat Union in the IAAP District was given one Additional Deputy Agricultural Officer and 5 Additional village level workers. Originally the Agriculture Department recruited the village level workers and later on they were ordered to be merged with the cadre of Gramasevaks.

3.41. The additional staff sanctioned for HYVP has been given different treatment in different districts. In some places they work under the Department and in others they are attached to the Panchayat Unions.

Over the period of 10 years the Agriculture Department has acquired a large-contingent of Agricultural Assistants and Demonstration Maistries almost sufficient to carry on its work, inspite of the inadequate response from many Panchayat Unions and their staff.

3.42. The broad conclusion that emerges from the experience of the past 10 years is that while it should be the aim of the Agriculture department to associate Panchayat Unions closely in all development work, that Department cannot in the existing set-up, depend exclusively on the Panchayat Union staff for the successful implementation of its crash programmes. The limitations of Gramasevaks who are multipurpose workers under dual control, should be taken note of and only such items of work as could be done by them well, should be entrusted to them. The Commission has already spelt out in detail in its report on Panchayat Development Administration, the various administrative changes necessary to improve the responsiveness of the Panchayat Unions to agricultural priorities.

3.43. The most realistic approach in the immediate context, would be to provide all the 374 Panchayat Unions uniformly with 1 Deputy Agricultural Officer and 10 Gramasevaks each. The special additional staff sanctioned for projects like IADP, IAAP, HYVP, etc., may be withdrawn from the control of the Panchayat Union Commissioner and subordinated directly to the Agriculture Department to be fitted into the reorganised departmental set-up. The two field-formations, one under the direct control of the Taluk Assistant Directors and the other under the Panchayat Union set-up, will share the work functionally. The departmental staff will attend to all the special items of work sponsored by the department and the staff attached to the Panchayat Union will supplement their work in such spheres as information, publicity and public relations. The Deputy Agricultural Officer attached to Panchayat Union will continue to be the agricultural adviser to the Panchayat Union Council, and the liaison officer between the Agriculture Department and the Panchayat Union Council. He will explain to the Panchayat Union Council and the Gramasevaks, the essentials of the campaigns and programmes organised by the Department for the area and persuade them to co-operate with the Department. He will also convey to the Department, the reactions and suggestions of the Council. Besides these, he will be the information officer in his area and ensure that Gramasevaks effectively publicise the broad objectives of departmental campaign.

The existence of two agencies at the grass root level, as envisaged, sharing the work functionally may lead to some disharmony and lack of co-ordination, but this will vanish when the major recommendations of the Commission on the Panchayat Development administration calculated to impart a strong agricultural bias to the Panchayat Unions under the directions of a high power Panchayat Development and Agricultural Production Commissioner, are implemented in the spirit in which they were made.

Headquarters organisation.

3.44. One of the essential objects of the reorganisation is to prevent the problems which should be solved locally, from going up to the Headquarters organisation for decisions. This will be achieved if in addition to district co-ordination arrangements, the Chief Agricultural Officer of the district is entrusted, with by delegation, most of the financial and personnel administration powers, now exercised by the Director. When this is done the Headquarters organisation will become more compact and cohesive and concentrate on the more important aspects of the departmental administration.

3.45. In the reorganised set up, the directorate may have the following divisions :—

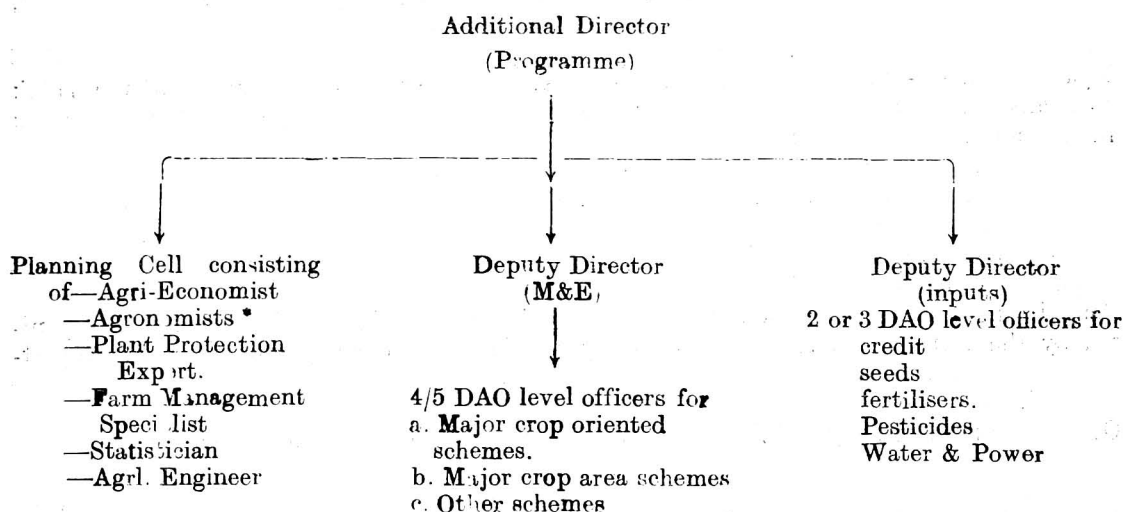
(a) Personnel, (b) Finance and accounts, (c) Programme, (d) Research, (e) Agricultural Engineering, (f) Agricultural marketing and Quality control.

3.46. The Personnel division may be headed either by an officer of the State civil service of the rank of a District Revenue Officer or by an IAS Officer in the senior scale. The head of the personnel division should have been carefully chosen and trained by the Personnel department of the Secretariat as envisaged by the Commission in its report on Personnel Administration. Apart from attending to the personnel work attached to the Directorate, he will spend a major portion of his time in ensuring that the personnel

administration is attended to by the District and Taluk Officers and by their Personnel assistants in accordance with the prescribed rules and policies. He will hold once in 6 months seminars to train them and bring them up-to-date on the rules and procedures. Since most of the personnel work would have been delegated to the district officers, he need have only a small staff to assist him.

3.47. The division of finance, accounts and budget will be headed by a Financial Adviser and Chief Accounts Officer, carefully chosen and trained by the Finance Department. He will assist the director in the framing of the budget and control of expenditure. In addition to handling the accounts and internal audit work, he will also train the finance/accounts staff attached to the district and taluk to follow the rules and priorities of the department.

3.48. The programme division may be headed by a Senior technical officer in the rank of an Additional Director. His main responsibilities will be (a) Planning, monitoring and evaluation of all schemes of the department and (b) forecasting the agricultural input requirements of the State and making arrangements for their timely supply. The work in this division may be organised somewhat on following lines :—

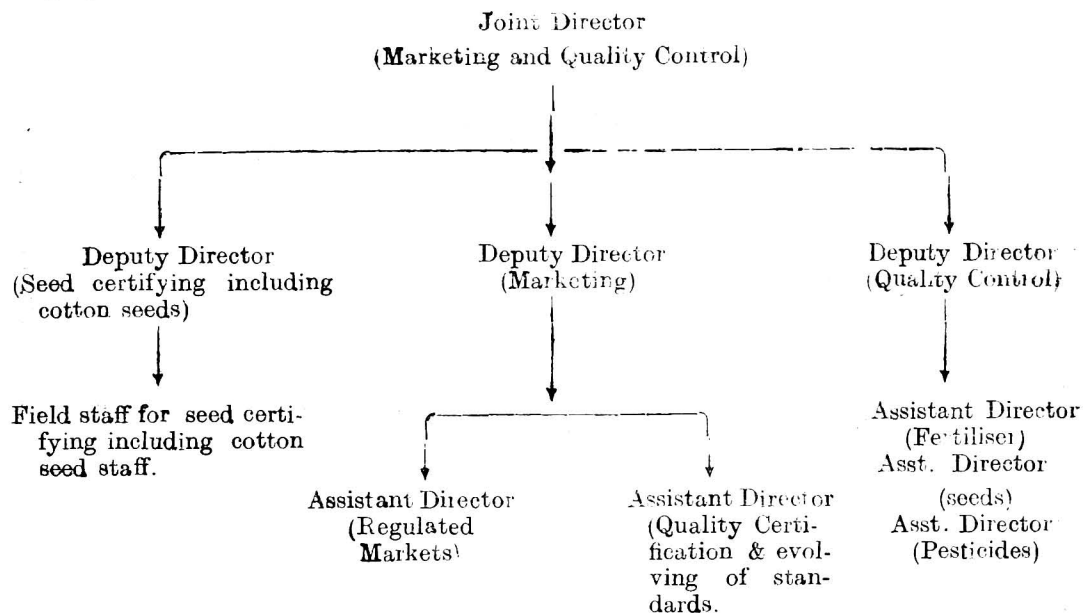


The research division will be headed by an officer of the rank of the Additional Director. Apart from directing the research work in the departmental research stations, he will co-ordinate the departmental activities with those of the Agricultural University and other research institutions in the country. He will liaise with the University on all departmental matters. He will also indicate to the subject matter specialists of districts, the correct methodology for adaptive trials and research and collate the findings for being sent to the Research institutions as feed back data to them.

3.49. The agricultural engineering division is at present headed by an officer with the rank of a Chief Engineer. He has a scale of pay even higher than that of the Additional Director of the Department. Except for one special post in Tanjore district in Joint Directors grade, all his immediate deputies are of the 'executive engineers' level. The Commission is of the view that this arrangement distorts the normal priorities in the agriculture developmental administration. Agricultural Engineering work is no doubt important, but it can not have such an overriding priority over other aspects of agricultural development work as may be suggested by the exceptional high rank of the agricultural engineer. It may be more appropriate for the department to have an agricultural engineer of rank of a superintending engineer to head this division, as he is only a second level officer and not the head of a department. This division will continue to have the responsibility for promoting farm mechanisation, soil conservation and water management. The need for transferring the activities like hiring machines, sinking wells, etc. to some other organisation more suited for handling such commercial activities is discussed elsewhere in this report.

* i.e. 5 or 6 Crop Specialists.

3.50. The Agricultural Marketing and Quality Control division may be headed by a Joint Director. It will look after such items of work as Regulated Markets, Agmark Work, Market Survey and Intelligence, Drawing up of Standards and Specification for Agricultural Produce to facilitate their mass marketing. Quality Control Work in respect of fertilisers, pesticides and Seeds and also Seed Certification Work. He may have 3 Deputy Directors and 5 Assistant Directors to help him at the Headquarters.



3.51. Besides the sections working with Additional Director (Research) and Additional Director (ICIP), there are 45 sections in the Directorate. After the reorganisation on the above lines, it should be possible to transfer good many sections from the head office to the District Offices.

3.52. The Commission believes that reorganisation of the department on the above lines will result in better area planning and much greater degree of local decision making. The head office will be enabled to concentrate on the more important aspects of agriculture developmental strategy. It will also result in better role clarity and much greater accountability as comprehensive and well defined tasks can be assigned to self-contained units.

PERSONNEL

4.1 The Department of Agriculture employs 2,453 officers, and 14,846 members of non-gazetted staff. The officers are divided into 4 different cadres, viz., Extension, Research, Agricultural-Engineering, Administration/Accounts. The structure of the 4 different cadres can be appreciated from the following :

Rank.	Extension.		Research.	
	No.	R	No.	R
CE				
Addl. Director	1	1:4	1	1:1
Jt. Director	11	1:4	1	1:17
Dy. Director	44	1:4.5	17	1:6
D. A. O.	195	1:9	99	1:3.5
Dy. A. O.	1737	..	336	..
Agri. Asst., Grade I:	1695	..	345	..
Agri. Asst., Grade II }				
Demonstration Maistry, Gr. I }	3357	..	-	-
Demonstration Maistry, Gr. II }				

R=Ratio to the next lower level.

Rank.	Agricultural Engineering.		Rank.	Admn./Accts.	
	No.	Ratio.		No.	Ratio.
CE	1.	1 : 1	Jt. Director	1	1 : 15
J.t Director	1	1 : 22	Admn. Officer	15	1 : 2
Dy. CE. / DE.	22	1 : 3	Supdt. (S.G.)	29	1 : 9
AE.	69	1 : 8	Supdt.	283	1 : 4.5
J.E. / Supervisor	543		Assistant	1173	1 : 1.4
			Jr. Assistant	1475	
			Typist/S.T.	544	

RECRUITMENT

4.2. In the Extension Branch, Demonstration Maistries, Grade II are recruited from among those who pass out from the agricultural schools. They can move up to the level of Agricultural Assistant, Grade I only as their basic educational qualification is low. Direct recruitment is also done at the level of agricultural Assistant, Grade II mostly from among those who come out of the training institute at Perianayakapalayam and Gandhigram. Those organisations give a 2 year diploma course in agriculture after SSLC. These Grade II Assistants can move up to the level of Deputy Agriculture Officer only. There is slight difference between the pay scales of promoted Deputy Agriculture Officers and directly recruited Deputy Agriculture Officers, as the latter are holders of a B.Sc. Degree in Agriculture.

4.3. Major direct recruitment for the officer grades is at the level of Deputy Agriculture Officers. At the time of recruitment they are allotted either for research or for extension. No interchange of staff takes place later on between the two cadres. Deputy Agriculture Officers can normally hope to become Deputy Directors before retirement. Only a few of them will have the chance to become Joint Directors. In order to ensure a steady supply of Joint Directors with reasonable tenures, direct recruitment at the level of District Agriculture Officers is done to a very limited extent. The present rule as laid down in G.O. Ms. No. 1474, Agriculture, dated 18th May 1970 is that 1/6th of the vacancies at the level of District Agriculture Officers should be filled in by direct recruitment. The minimum qualification prescribed for this is an M.Sc. degree in agriculture. No recruitment had however been made in the recent years as the Tamil Nadu Agricultural Upper Subordinates Association has been agitating against direct recruitment. Recently writs in the High Court have been filed, as a result of which action for direct recruitment has been stayed.

4.4. The Commission has studied the tenures of the Joint Directors of the Department in the past and has also attempted to forecast the likely tenures of Joint Directors till 1985. The results are tabulated in Annexure No. 3. It may be seen that as a result of the policy of direct recruitment followed till 1963 the Department will have a steady supply of Joint Directors with long tenures till 1980, without seriously affecting the chances of the promoted officers. The impact of not having resorted to direct recruitment during 1963-74 will be felt by the Department after 1980 when it will have Joint Directors with very short tenures.

4.5. The Commission therefore is of the view that limited direct recruitment at the level of District Agriculture Officers is inescapable from the point of view of getting a steady supply of relatively younger men to occupy the posts of Deputy Directors and Joint Directors in the Department.

4.6. In the Engineering Branch, direct recruitment is done at the level of Supervisors/Junior Engineers and Assistant Agricultural Engineers.

4.7. In the Administration Branch, recruitment is at the level of Junior Assistants. Junior Assistants, Assistants and Superintendents work in Administration and Accounts wings. Higher jobs in the accounts wing such as Junior Accounts Officer, Senior Accounts Officer and Chief Accounts Officer are filled in by the Members of the Treasury and Accounts Service. In the Administration Wing, the Superintendents can hope to become Administrative Officers.

PROMOTIONS

4.8. At present promotions are given mainly based on seniority, subject to suitability. As this is a technical department, in which the technical competence of the officers is of great significance, it may be desirable to give preference to higher technical

qualifications while making choices for promotion from among officers of equal seniority. The department should aim at having Ph. D. degree holders as Joint Directors and M.Sc. degree holders as Deputy Directors in the next 10 years.

4.9. In order to facilitate this liberal study leave should be given to the officers to qualify themselves, at their cost, for higher degrees. Besides this the department should send some officers for higher studies at Government cost. The university may be persuaded to reserve some seats for the departmental candidates desiring to pursue higher studies.

SPECIALISATION :

4.10. Specialisation has been ensured to some extent by organising separate cadres for Research, Extension and Engineering. In the Research Wing sub-cadres exist for various disciplines and inter-change of officers among the disciplines is not allowed. There is a need to practice similar sub-cadring in the Extension Wing in relation to Agronomists and Plant Protection Specialists, from the level of Deputy Agriculture Officers up to the level of Deputy Directors Officers allotted to the sub-cadre of Plant Protection or Agronomy may remain in it till they are ripe for promotion to the level of Joint Directors—Except for the period they spend as Assistant Directors in charge of a Taluk. The Deputy Directors belonging to all the 3 sub-cadres, viz., Agronomy, Plant Protection and Extension, i.e., all the Deputy Directors may be equally eligible to become Joint Directors in the Extension Branch.

TRAINING :

4.11. Apart from the series of intra-departmental training programmes which are part of programme implementation, officers at the level of Deputy Directors and Joint Directors need to be exposed to the latest developments in agriculture at least once in three years through summer camps organised with the assistance of such institutions as ICAR and Agricultural Universities.

4.12. The record of the department in making use of the facilities under Colombo Plan, Ford Foundation, etc., has been poor, when compared to other Departments. Attempts should be made to exploit such facilities fully and to send suitable officers abroad for higher training and exposure to the organisations and methods adopted in other developed and developing economies.

FUNCTIONS OF THE DEPARTMENT.

5. The department has the responsibility for the performance of several functions to achieve the main objective of agricultural development in the State. The nature and details of these functions need to be examined from the points of view of (a) whether any addition to or deletion from the list of functions is called for, (b) whether the relevant agency for the performance of each of these functions is the most appropriate one and (c) Whether any change is called for to enable the department to perform these functions better.

RESEARCH :

5.1.1. The research wing of the department had been attending to fundamental and applied research long before the formation of the agricultural university in 1971. After the formation of the University the agricultural research institute and the central farm at Coimbatore and five research stations in Coimbatore and Madurai have been transferred to the University. The department still retains 25 research institutions, under its control.

5.1.2. The regional research stations are headed by Research Officers/Crop specialists in the grade of Deputy Directors of Agriculture. They are assisted by Assistant Research Officers in the grade of District Agricultural Officers and Research Assistants in the grade of Deputy Agricultural Officers, for such disciplines as Agronomy, plant pathology, entomology, chemistry. The sub-stations are headed by assistant Crop specialists in the grade of District Agricultural Officers who are assisted by Deputy Agricultural Officer (Research).

5.1.3. An analysis of the research Staff in terms of their specialisation and rank is given below :

Specialisation.

Number of persons under each rank.

		Deputy Director.	District Agrl. Officer.	Deputy Agrl. Officer.	Joint Director.	Additional Director.
Crop breeding	..	7	15	64	..	..
Agronomy	..	1	18	15	..	..
Chemistry	..	2	38	174	..	..
Botany	..	..	2	14	..	..
Horticulture	..	5	13	27	..	..
Entomology	..	2	4	25	..	..
Plant Pathology	..	0	9	17	..	..
General	..	0	0	0	1	1
Total	..	17	99	336	1	1

5.1.4. The initial recruitment is at the level of Deputy Agricultural Officers/ Research assistants who are allotted to various disciplines and allowed to specialise in them. They get promoted to higher position within their respective disciplines. This results in differential promotional opportunities to different specialists, but this cannot be mitigated by allowing inter-disciplinary movement of research staff, as specialisation in paramount in this activity.

5.1.5. The Commission has recommended elsewhere that subject matter specialists like agronomists and plant protection experts (covering the disciplines of agronomy, entomology, plant pathology and mycology) should be attached to the District and Taluk administrative units. It may be useful to post the research staff in some of these jobs. Such a course of action will not only help in mitigating to some extent the unequal promotional prospects of the research staff, but also introduce in the field of adaptive research, a certain amount of research competence and specialised technical skills. It will also help atleast some of the research staff to appreciate the field problems and realities by direct involvement in extension work.

5.1.6. In any case the head of the research division should have the responsibility (a) to finalise the list of research findings (made by the department or the 'varsity or any other institution) to be passed on to the extension branch for propaganda, (b) to prescribe the methodology for adaptive research in respect of these findings taking into account the variables like soil, climate, rainfall, water-supply, and local agricultural traditions, (c) to collate the findings of adaptive research and pass it on to the research institutions as feed-back.

5.1.7. Agricultural Research is being done by the various Government of India Institutions, the agricultural University and by the research stations of the department. By its very nature research usually calls for heavy monetary and specialist-staff-inputs, and the percentage of its out put which lends itself to immediate exploitation is low. The aim should therefore be to avoid needless duplication of work in these institutions. The Commission has already examined in detail the relationship between the department and the University in its report on agricultural research. A committee under the Chairmanship of Secretary to Government (Agriculture) consisting of the Director of Agriculture, Additional Director (Research) and one representative each from the Agricultural University and the ICAR may clear the annual programme of the research division from the point of view of avoiding duplication of efforts. It may even play a positive role in dovetailing the research efforts of the relevant institutions.

ADAPTIVE RESEARCH

5.2.1. Adaptive research is a pre-requisite of successful extension work. Agricultural output is a function of several complex variables like soil, climate, rainfall, irrigation, agronomic practice, mechanisation, labour productivity, etc. A package of practices developed by the research institution for a crop, cannot be applied all over the State

without modifications to suit the local conditions. Adaptive research by field trials in representative fields of different agro-climatic tracts helps the extension staff to give the ryots of any given tract, practices most suitable to that tract.

5.2.2. The Commission is of the view that the importance of this activity must be fully recognised and that the work done in the department in this area needs to be intensified. The Commission envisages a district set up in which there will be a Deputy Director (Agronomy), Deputy Director (Plant Protection), Soil-Chemistry expert and an agricultural engineer specialising in water management. Research findings from the various research organisations will be shifted by the Additional Director (Programme) and Additional Director (Research) at the State level and passed on to the District Joint Directors. These 4 subject matter specialists will then organise adaptive research trials in representative fields in the various agroclimatic tracts of the district and modify the package of practices to suit the local conditions in the light of the results of the adaptive trials. This modified package will then be passed on to the regular extension staff for being publicised among the ryots.

5.2.3. The Subject matter specialists at the District headquarters will decide on the methodology of trials, location of trial plots and will supervise the trials, and interpret the results and finalise the modifications to the research findings. The actual trials will be conducted by the Subject Matter Specialists attached to the taluks.

5.2.4. Adaptive research provides for interaction between the research and extension staff. The extension staff will be involved in the selection of plots for and also in the conduct of adaptive trials. They may bring the ryots from adjoining areas to watch the trials and offer views.

5.2.5. The Subject Matter Specialists will assume the role of teachers to the extension staff and convey to them the implications of the package being passed on to them, through seminars. Later on they will also help the extension staff in spreading the message to the ryots through exhibitions and demonstrations, and person-to-person discussions.

5.2.6. The Subject Matter Specialists at the district level will also with the assistance of the Subject Matter Specialists attached to the Farmers Training Centres, periodically redesign the course content of the training programmes to carry the message of the results of adaptive trials to the opinion leaders in the rural areas.

EXTENSION

5.3.1. Extension is the process by which the ryot is persuaded to adopt improved practices which the department believes will result in greater production and benefits to the ryots. At present the extension work covers not only different kinds of crops, but also such aspects as rotation of crops, multiple cropping, etc. Methods of extension adopted by the department include, personal contact with individual ryots by field workers, exhibitions and fairs, field demonstrations and publicity through radio, and posters. This is probably the most important and most productive among the functions of the department.

5.3.2. The Commission envisages a district set up in which the Joint Director of Agriculture in charge will have definite production and programme objectives. He will have competent specialists (e.g. Plant Protection, Agronomy, Soil Chemistry, Water Management) who through adaptive research will be able to refine the research findings relevant to the district objectives to suit the conditions of the various tracts of the district. The Joint Director of Agriculture, thus having settled the relevant message to be spread will use the extension agency and the training agency for actually spreading it in the villages. The training agency (viz. Farmers Training Centre, Agricultural Schools, etc.) will influence the opinion leaders in a concentrated manner. The extension agency will adopt a selective person to person or person to group approach for conveying the message. Actual field demonstrations (both National and second line departmental ones) exhibitions, film shows, etc., will be used as aid.

5.3.3. The Commission feels that the person to person approach should form the starting point of the programme implementation work. The work of preparing the farm plan for each ryot could be the basis of contact. It is in the preparation of the farm plan, that the wisdom of all the branches of the department comes into play. Soil analysis, crop selection and rotation, multiplicity of the crop, selection of seeds, duration of crop, estimation of input needs, determination of the practices in relation to the farm, all come into play in the preparation of farm plan. Thus a practical method of quantifying and assessing the work of extension staff would be to count the number of farm plans made and implemented. All the other media pressures will help to extend the coverage of the farm plan work.

FARMERS TRAINING CENTRES AND AGRICULTURAL SCHOOLS

5.4.1. Farmers' training and education is an integral part of the agricultural production strategy. The regular extension staff approach the farmers in their village and try to persuade them to adopt the new methods. This effort needs to be supplemented by some form of structured training at least to cover the opinion leaders in the community who may be able to benefit by it and generate intelligent interest in the community in the new methods and approach to agriculture. The farmers' training centre scheme fulfils this need.

5.4.2. There are 7 such centres in our State in the districts of North Arcot, South Arcot, Coimbatore, Thanjavur, Thiruchirappalli, Madurai and Tirunelveli. Two of them have been transferred to the agricultural university leaving 5 with the department. These centres are attached either to a State Seed Farm or to a Research Station farm and offer residential training facilities. Each centre is administered by a Deputy Director, with the assistance of one District Agricultural Officer, one Radio Contact Officer, two Deputy Agricultural Officers, and one Women Training Officer. The centres are provided with vans, tractors and other agricultural implements with the necessary complement of operators.

5.4.3. The centre offers 5-day training courses which consist of lectures, discussions, visits to demonstration farms, film-shows and exhibitions. Printed pamphlets and cyclostyled materials are also provided on the subjects relevant to the course. Each centre is capable of handling in a year about 625 trainees. The centres provide to the trainees free accommodation, free food and tuition materials. The participants will have to bear the cost of travel between their village and the centre. The trainees are encouraged to keep in touch with the centre and refer to it their doubts and problems.

5.4.4. Besides this, the Farmers Training Centres also arrange for training in villages on particular subjects relevant to the campaigns, organise conducted tours of farmers, and promote the activities of the Radio discussion forums.

5.4.5. National demonstrations work sponsored by the ICAR is also attended to by four of the Farmers Training Centres. In these centres there are subject matter specialists for agronomy, plant protection, soil chemistry and agricultural engineering who arrange for demonstrations relating to specific crops in the farmers' fields. Farmers in the adjoining region are collected and brought to these National demonstration farms for educational purposes. In 1970-71 for example, 109 National demonstrations were held all over the State.

5.4.6. The Farmers Training Centres at present are not linked to the extension hierarchy except in Thanjavur District, where the Deputy Director of the Farmers Training Centre is under the control of the Programme Director of the IADP. This has resulted in the Farmers Training Centres in other districts functioning in isolation, with no co-ordination with the Regional Deputy Directors and District Agricultural Officers. The training programmes are not to be regarded as some kind of academic exercise, but as tool of influencing the opinion leaders to spread the message of particular campaigns. Thus when the programme executing staff undertake campaigns like the propagation of High Yielding Variety of Paddy or Sunflower cultivation the training should be structured to carry the message of the programme. Such an arrangement and use of the Farmers Training Centre has been possible only in Thanjavur district so far.

5.4.7. In the reorganised set up, the Commission envisages that there will be a Joint Director heading the programme organisation in every district. The Farmers Training Centre headed by a Deputy Director should be brought formally under his administrative control to enable the latter to serve effectively the programme objectives of the district.

5.4.8. The training courses and other activities of the Farmers' Training Centre generally have relevance only to the agro-climatic region in which they are situated. A farmer from Chingleput district can not be usefully trained or influenced in the Farmers' Training Centre in Kanyakumari. Also the number of trainees which a Farmers' Training Centre can handle effectively is limited to about 625 a year. There is therefore a case for setting up a few additional Farmers' Training Centres, so that each revenue district may have one Farmers' Training Centre. The additional staff required will become available when the reorganisation proposals of the Commission are implemented. The Commission therefore recommends that each district may be allowed to have one Farmers' Training Centre of its own.

5.4.9. There are at present 14 agricultural schools organised for the purpose of providing secondary schools level agricultural training to the sons of farmers. The students belong to the age group of 18 to 30. A pass in the VIII Standard and two years of experience in agriculture are the qualification. The course duration is one year. Each school takes 20 trainees per year who are given free tuition and lodging and/or stipend to cover boarding expenses and pocket money. Each school is under the charge of Deputy Agricultural Officer assisted by an agricultural assistant.

5.4.10. The object of this training is to equip the sons of farmers to go back to agriculture with enthusiasm for, and knowledge of, modern methods of agriculture. Most of the trainees who came out of these schools however sought and obtained employment in the department as Demonstration Maistries. The schools thus have come to be looked upon as the gates of entry into Government service and the number of applications every year is far in excess of the seats available. To this extent the scheme has failed in its broad objectives. It is not desirable to freeze this attitude towards this course.

5.4.11. The Department should choose for this course only those who are not likely to seek employment in the department and who will go back to agriculture. The method of advertising in the newspapers and waiting for applications will only attract the jobless youths seeking employment. Candidates should be chosen by the Field Officers based on their knowledge of the family circumstances of the farmers. These schools may be placed under the control of Deputy Director (Farmers' Training Centre) in each district.

5.4.12. The Commission feels that there is a case for vocational education oriented towards agriculture in a number of high schools in rural areas. Two or three high schools in each panchayat union which have the possibility of having a 4/5 acres farm near them may be allowed to organise the classes for Agricultural Secondary School Leaving Certificate Course. Up to the VIII Standard the course will be like the normal one. During the subsequent three years the student will study two languages, Mathematics and Agriculture. This will have the advantage that the boys can take this course in their own panchayat union instead of going to far away agricultural schools. There will be no stipends and no special expenses to Government on boarding and lodging. Nor will this course be looked upon as leading to a Government job. Incidentally this will open up a new avenue of employment to the holders of degrees and diploma in Agriculture as they can go as teachers in these schools. If need be the department can also depute Deputy Agricultural Officers of five years experience to work in these schools on a tenure basis. Schemes such as these will help us to raise the level of learning of the farmers, over a period of years and make them sensitive and responsive to new ideas.

TRADING OPERATIONS.

5.5.1. The Agricultural Department has acquired over the years a great deal of 'shop keeping' functions. It has perhaps the largest trading turnover, among the Government departments. The rapid growth of the trading activity of the department can be appreciated from the following:—

Year.	Expenditure on Agriculture Department. (rupees. in CRORES)	Receipts from Agriculture Department. (rupees. in CRORES)
1950-51	2.80	1.18
1955-56	1.54	0.50
1960-61	3.62	2.26
1965-66	13.52	3.61
1966-67	13.36	4.17
1967-68	15.82	5.71
1968-69	16.98	5.61
1969-70	20.09	7.96
1970-71	19.10	7.08
1971-72	22.27	9.55
1972-73	26.34	10.19
1973-74	25.65	10.93

5.5.2. Purchase and sale of pesticides and sprayers, production, purchase and sale of seeds and seedlings and hiring of tractors, crawlers and well sinking drills account for more than 75 per cent of the trading activity of the department. Considering the pace of development of agriculture, one may safely assume that the turnover of these activities will increase enormously in the near future. This development raises questions such as whether the departmental organisation is the most suitable agency for this work and whether the impact of this kind of commercial work on the department is wholly benign.

5.5.3. Sale of pesticides, spraying equipments and seeds is done through the 751 agricultural depots located in 374 panchayat unions. The Deputy Agricultural Officer and the depot assistant attached to panchayat unions are responsible for the operation. Hiring of tractors and crawlers and drilling rigs is being done by the agricultural engineers. The rationale behind the Government assuming these responsibilities is that the private sector is not and won't be interested in these activities and that in any case it is not likely to have such a wide net work of retail sales points. In respect of improved seeds there is uncertainty of markets and the department which promotes the use of seeds is considered the best agency to sell them.

5.5.4. In actual practice severe strains in the system of agricultural developmental administration have developed on account of the massive trading activity. The financial and accounting procedures of the Government are not designed for such an activity and they do not encourage initiative, and local decision making involving risk taking—which are essential for successful business operations. This results in most of the decisions being questioned and the Deputy Agricultural Officer and the District Agricultural Officer spend a great deal of their time in answering these questions. The sheer volume of trading calls for an enormous amount of indenting, store-keeping, stock verifying and accounting work, besides the filling of innumerable returns. This keeps the Deputy Agricultural Officer and the District Agricultural Officer who are essentially field executives, effectively tied down to their desk and depot. There are also financial strains as amounts of the order of Rs. 10 to 15 crores have to be accommodated within the State budget without the assistance of any cash credit accommodation from outside Banks. As there are no built-in pressures for realistic purchases and efficient sales, institutional inefficiencies resulting simultaneously in the accumulation of certain goods and the scarcity of certain others develop.

5.5.5. The Commission is of the view (a) that the Government activities in this regard should be organised in a company form to gain operational freedom and financial support from outside the State Budget, (b) that the private sector should be encouraged actively to invest in these activities through financial incentives, such as low rates of interest on borrowings.

5.5.6. It may be useful to organise a State agricultural inputs trading and financing company as a wholly Government-owned Company. It may take over from the department the trading work relating to pesticides and sprayers and all the agricultural depots and staff engaged exclusively in trading operations. It will be necessary to ensure perfect co-ordination between the extension staff and this company, as the basic pre-condition to successful extension work is the availability of inputs on time. For this purpose the Director of Agriculture may be made the Chairman of the company and the Managing Director of the company notified as an ex-officio Joint Director of the department. This company, apart from selling pesticides may also undertake spraying work whenever necessary.

5.5.7. In order to ensure adequate volume of business to this company and to avoid multiple selling outlets, it may be desirable to entrust to the same company the responsibility for the purchase of seeds and seedlings from Government and private farms and selling them to the ryots. How the activity relating to the production of seeds and seedlings may be re-organised is discussed in another chapter in this report.

5.5.8. It may also act as a financing company for promoting private investment in pesticide and seeds trading. Its trading activities are bound to produce profits, a part of which can be diverted to subsidise the rates of interest for the financing operation. This Company can look to banks for credit for trading, and refinance for its financing operations.

5.5.9. Fertiliser distribution has been recently entrusted to the TCMF and TNCMF and it is too early to judge the results of this step. Should this prove unsatisfactory, the work relating to the distribution of fertilisers may also be entrusted to the SAIT & F Co. Even otherwise, it may be advantageous to entrust fertiliser distribution to this new Government company, as it will result in one Government company handling the distribution of all the major material inputs to agriculture, a development which will make possible a well co-ordinated and timely supply of inputs, whenever desired by the extension agency. Major problems of inputs co-ordination now faced by the department will instantly disappear. The Board of Director of this company may include also the Joint Director level Officers of the department looking after seeds and fertilisers.

5.5.10. Similarly the work relating to the hiring of tractors, crawlers and drilling rigs and the administration of workshops to service these equipments also needs to be transferred from the department to a company which can run them with a greater degree of cost-consciousness. The Tamil Nadu Agro Industries Corporation is most ideally suited to undertake these functions. The Commission recommends that these items of work along with the equipments and the staff may be transferred to the Agro Industries Corporation.

5.5.11. The department may, however, be allowed to keep its own store of fertilisers, pesticides and seeds needed for the demonstrations. It may also keep small stocks of new seeds, pesticides, fertilisers, etc., for the purpose of introducing and popularising them in the market. The total value of the stocks thus handled by the department for the whole State will only be of the order of a few lakhs of rupees—as opposed to the current turnover of Rs. 14 crores. When these recommendations are given effect to, the extension staff of the department will be free to concentrate on their main task of giving technical advice to the ryots, unhampered by a lot of desk work.

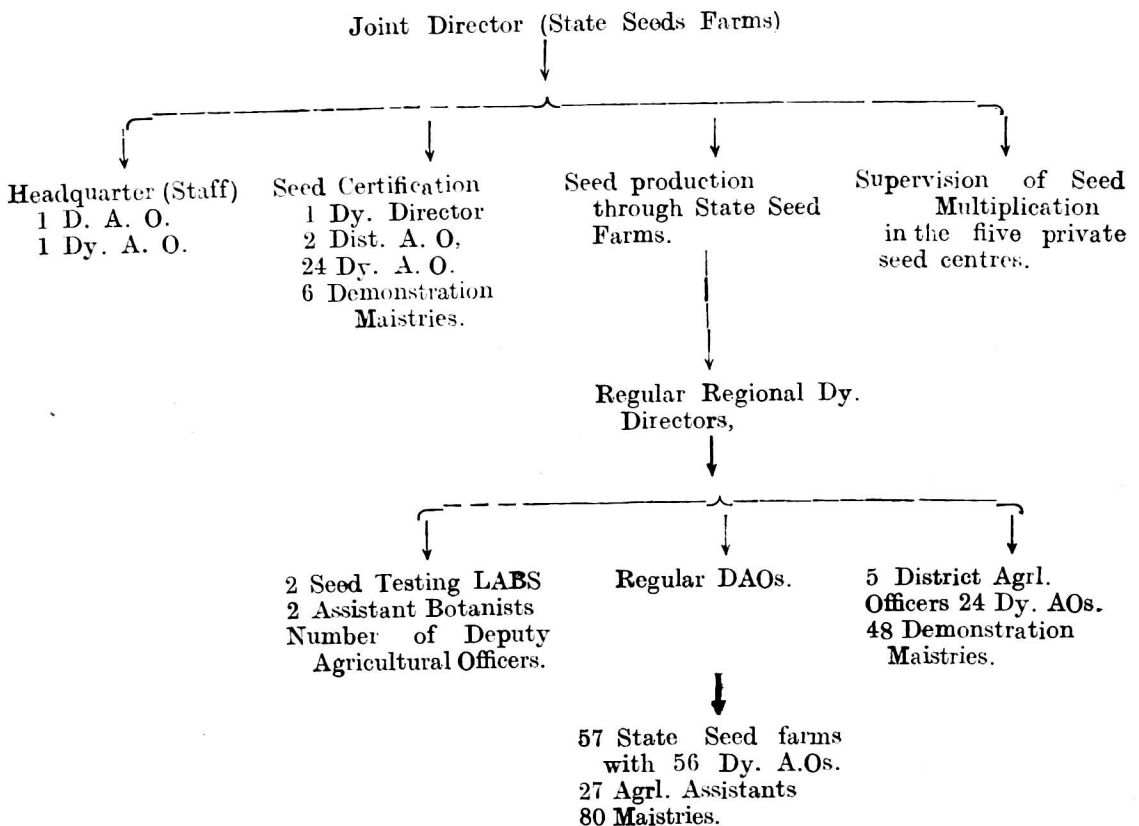
PRODUCTION AND DISTRIBUTION OF IMPROVED SEEDS.

5.6.1. Success in increasing agricultural production depends largely on the evolution and propagation of the use of improved seeds which respond to fertilisers, resist pests and diseases and give higher yields. Green revolution in paddy has become possible mainly on account of the evolution of the nitrogen responsive strains. Improved seeds of

paddy and millets are generally produced in three stages. In the first stage breeder seeds are produced in research stations under carefully controlled conditions by highly trained seed technologists. In the second stage foundation seeds are produced in State Seed Farms by agriculture departmental officers multiplying the breeder seeds. In the third stage certified seeds are produced in privately owned seed centres under the supervision of the officers of the department. In respect of seeds like groundnut, where the multiplication ratio is low, extensive fourth stage multiplication is also done. In respect of cotton multiplication is done generally in private farms with ginning facilities. In respect of coconut, fruit trees, etc., seedling are raised mostly in Government nurseries.

5.6.2. The quality of improved seeds is checked and certified under the National Seeds Act, 1966, by the seed certifying staff of the department, in respect of seeds notified under the Act. The seed certification wing consists of one Deputy Director, two District Agricultural Officers, 24 Deputy Agricultural Officers and six Demonstration Maistries and works under the control of the Joint Director (State Seed Farms). There are two seed testing laboratories at Coimbatore and Madurai each under the control of an Assistant Botanist and having the services of several Deputy Agricultural Officers for testing and research.

5.6.3. There is a separate hierarchy under the Joint Director (State Seed Farms) consisting of six District Agricultural Officers, 82 Deputy Agricultural Officers, 27 Agricultural Assistants and 128 Demonstration Maistries which attends to the production of improved seeds of paddy and millets. It has 55 State Seed Farms each under the control of a Deputy Agricultural Officer. It uses the regular District Agricultural Officers and Regional Deputy Directors for supervising the work of the State Seed Farm Managers. The organisation of the seed production and seed certifying wings, is indicated in the following control :—



5.6.4. The certified seeds produced in the five seed centres are purchased and marketed by the department. Besides this, the foundation seeds produced in the State Seed Farms are sold to 11 licencees in the State who are competent to produce certified seeds in their own farms and market them directly to the ryots.

5.6.5. The work relating to the production of improved seeds and seedling in respect of crops like oil seeds, cotton, coconut, fruits and vegetables, Tobacco, sugarcane and pulses is attended to by the special crop oriented hierarchies created for the promotion of these crops. 19 coconut nurseries, 8 model orchards, 1 large farm for pulses, 2 vegetable seed centres and 6 potato farms are under the control of such special staff. The multiplication in respect of oil seeds, cotton, tobacco and sugarcane is done generally in private farms.

5.6.6. The turn-over of the seeds operation can be gauged from the following parametres. In 1970-71 the State seed farms produced 3,893 tonnes of seeds covering crops like paddy, millets, hybrid millets, oil seeds, pulses and vegetables. The department distributes about 14,000 tonnes of paddy seeds and 700 tonnes of millet seeds. In 1970-71, 50 State seed farms made a total profit of Rs. 11.15 lakhs while 10 farms made a loss of Rs. 0.56 lakh. Annexure No. 4 gives further details in this regard.

5.6.7. The Commission is of the view that the production of improved seeds is a commercial operation, which calls for operational freedom and financial and administrative procedures appropriate to commercial production. It comprises of demand forecast, efficient management of farms lowering of production costs and quick sales. It calls for a large measure of local decision making to meet production contingencies. All this can be provided with ease only if the activity is organised in the form of a Government company. The commission therefore recommends that State seed production company be formed with the Director of Agriculture as the Chairman and the Joint Director (State Seed Farms) as the Managing Director. It may take over from the department the Seed production work along with the State seed farms and all the staff engaged in the seed production work, under the Joint Director (State Seed Farms). It may also take over the coconut and orchard nurseries, vegetable farms and potato farms along with the respective staff attached to them. The objects of this company may include the following :—

(a) To produce foundation seeds, seedlings and saplings in respect of all kinds of crops in its own farms, nurseries and orchards.

(b) To produce certified seeds in privately owned or co-operative farms.

(c) To promote a number of licencees in the private and co-operative sector for the production and sale of certified seeds, by offering them monetary and service incentives such as lower rates of interest, supply of foundation seeds, common marketing facilities, technical guidance, priority supply of inputs, etc.

(d) To encourage agricultural graduates to set up their own seed farms as licencees.

5.6.8. The seeds produced by this Company may be marketed by the State Inputs Trading Company. Seed certification work is in the nature of quality control work during production stages. This is now being attended to in the Department by 1 Deputy Director, 2 District Agricultural Officers, 24 Deputy Agricultural Officers and 6 Demonstration Maistries, in respect of paddy and millet seeds. In respect of cotton seeds the seed certifying staff consists of 2 District Agricultural Officers and 8 Deputy Agricultural Officers. Besides this there is also a need for checking the quality of the seeds which are actually in the market. These policing and regulatory functions may remain with the Department and attached to the newly proposed Quality Control Wing for the time being.

5.6.9. Ultimately however the seed certification work should be entrusted to an agency outside the control of the Department and the sphere of influence of the Government Company for the production of seeds. The agency may be an autonomous Board with the Director of Agriculture, and representatives of private seed trade, and the experts of Agricultural University as its Members. It may engage its own staff for seed certification work to ensure independent and impartial work.

5.6.10. The Company for seed production will have to undertake certain reforms to put its operations on a sound footing. The location of many of the State seed farms would appear to have been chosen mainly on the ground of free availability rather than

on such considerations as the suitability of the soil, availability of irrigation facilities proximity to village farms which the State Seed Farms may influence, etc. Farms which chronically lose (there appears to be 10 of them) and which have inherent insuperable problems will have to be closed down without any hesitation. The size of the rest of the farms has to be made viable and all the necessary facilities like threshing floor, drying platforms, Rat proof godowns and seed processing equipments have to be provided in all of them. At present many farms lack most of these facilities and they do not even get proper fencing sanctioned. It may be desirable to have a smaller number of large sized farms with all the facilities, rather than have a number of ill equipped small farms.

5.6.11. The production and cropping pattern of these farms have to be decided on from the point of view of real demand and maximisation of returns. At present the total production of paddy seeds would appear to be a little more than what the market can take. Improved seeds would appear to be diverted for non-seed purposes—which is a waste of national resources. Farms producing foundation seeds need to be manned by qualified seed technologists and efforts should be made to train the farm managers in this discipline. The staffing of the farms should be adequate to do justice to the work, without adversely affecting the economics of seed production. Mechanisation resulting in higher productivity may have to be resorted to.

5.6.12. The farm managers and the staff and their families are expected to live on or near the farms which are far away from town. Conveyance facilities should be provided for such purposes as shopping, medical attention and children's education. Unless such steps are taken no one will be enthusiastic about remaining in the farm management work.

5.6.13. Production incentives and bonus systems have to be introduced to motivate the farm staff to achieve the maximum output at minimum costs.

5.6.14. Adequate storage facilities should be created on a priority basis in each seed centre. Lack of this at present is a serious problem. Most of these seed storages should be so constructed with temperature and humidity control arrangements, that the seeds may be stored for a year or two without any appreciable loss of 'vigour' or viability under the normal storage, seeds rapidly lose both these qualities, i.e., capacity to germinate and to produce plants with vigorous growth.

The packing and sealing of the seeds should be such that till it reaches the ryots, it should be possible to see visually whether the pack has been tampered with or not.

5.6.15. Arrangement should be made to hold a reasonable quantum of buffer stock of seeds to meet extra demands arising after floods, or unusual droughts, which compel ryots to buy seeds from outside.

5.6.16. The target oriented approach of the Department to the seeds programme has given rise to some bad practices. In the anxiety to hit the targets, seeds which really ought not to be accepted are procured and redistributed. Similarly the state seed Farms do not for example, reject the crop when it rains unexpectedly before harvest. Grains of that harvest will not really qualify as seeds, but the pressure of targets induces officers to compromise on such basic principles and pass the grains as seeds. In the long run this brings the Department into disrepute, as the seeds purchased by the ryots would not have the qualities expected of them. Private sector seed companies cannot afford to follow such practices, since they will go out of business in a few years. The new Government Company will have to guard against such bad practices and endeavour to build up the proper image.

INPUTS SUPPLY MANAGEMENT

5.7.1. Timely and adequate supply of inputs like credit, seeds, fertilisers and pesticides, is the basic requirement for increasing agricultural production. Extensive use of high yielding seeds has made the timely supply of fertilisers and water a critical factor. Water from irrigation systems and power for lifting ground water have also to be made available at the appropriate seasons.

5.7.2. 'Pool' fertilisers are distributed through the village Co-operative Credit Societies and 'non-pool' fertilisers through the agents and retailers of producers. Seeds and pesticides are distributed by the Department through its 751 agricultural depots. Agricultural credit is provided mainly through the Village Co-operative Society and partly through nationalised banks.

5.7.3. Most of the inputs are in short supply and call for planning several months ahead of the actual dates of the requirement. The Commission feels that though the agriculture department does not have the responsibility for the actual supply of many of these inputs, it should assume full and formal responsibility for forecasting the demand for these inputs. Under the re-organised set up envisaged by the Commission, the Department will shed all its time consuming trading functions. Similarly the regulatory functions will also be taken away from the extension staff. The normal staff like Deputy Agricultural Officers, District Agricultural Officers and their subordinates therefore will have time to undertake the input planning work in a systematic manner. The work may be organised some-what on the following lines :—

A farm plan should be prepared for each cultivator at least 3 to 4 months in advance of the commencement of the fasli. The farm plan will cover all the lands held by the ryot, will indicate the number and nature of crops to be raised and their duration. The requirements of seeds, fertilisers and pesticides as well as credit will be worked out on the basis of the cropping pattern and incorporated in the plan. The preparation of the farm plan will give the chance to the field workers of the Agriculture Department to influence the ryots in favour of improved seeds, better farming methods, and help them take right decisions regarding the choice of crop, rotation of crops, etc. The extension Deputy Agriculture Officers in the Taluk and the Block (there will be several in the reorganised set up envisaged by the Commission) may forecast the requirements of the inputs based on these farm plans and inform all the relevant agencies engaged in the supply of inputs. Since farm plans will be made for every cultivator whether he is a Member or not of any Co-operative Society, the demand figures will reflect the true requirements. These demand figures may be analysed (a) in terms of regions like Blocks, Taluks, Districts, etc., (b) in terms of Members of Co-operatives and non-Members.

5.7.4. A convention should be evolved by which the input suppliers demand the copy of the farm plan, make the supplies as per the quantum indicated therein and make endorsements on it. (To some extent this is inherent in the practice of the Co-operative societies fixing the A.C.L. for its Members based on the advice of the Agriculture Department.) This will amount to some kind of an informal rationing. Informal regulation of fertiliser supplies through farm cards have been tried by the Department in certain Districts. This may be worked for one or two seasons and if it fails some kind of formal rationing backed by statute may be brought in.

5.7.5. The Joint Director in charge of the revenue District in the re-organised set up will be given one Assistant Director and one Deputy Agriculture Officer to assist him in this input forecasting and supply management work. The main tasks of this team would be (a) to ensure that all the field staff prepare the farm plans on time, (b) to give them general guidelines on the preparation of farm plans, (c) to compile the Districtwise and Taluk-wise demand figures for various inputs, (d) to communicate it to the Additional Director (Programme), Madras and to the local district institutions engaged in input supplies, (e) to persuade the local supplies to plan for indent and procure the required quantum of inputs, (f) to check whether the supplies are made as per farm plans. They will assist the Joint Director in taking up with the Collector, the Banks, Co-operative Credit and fertiliser institutions and with transport agencies, etc., the problems relating to input supply.

5.7.6. In the office of the Director of Agriculture, the Commission envisages that the Additional Director (Programme) will among other things, look after the input supply problems with the assistance of a team consisting of a Deputy Director and 2/3 Assistant Directors. He will collect the District-wise demand figures and pass them on to the respective State level agencies like TN CMF, Food Production Commissioner, State

Co-operative Bank, State Inputs Supply and Trading Corporation, etc., at least 3/4 months ahead of the commencement of the fasli, and liaise with them effectively to ensure that the quantities planned for are made available. The staff attached to this Additional Director and the Assistant Directors/Deputy Agricultural Officers attached to the District Joint Directors will also follow the movement of stocks and help to anticipate and sort out any transport bottleneck or storage problems.

5.7.7. An arrangement like this in which the Department forecasts the demands based on a 100 per cent coverage of ryots by farm plans and subsequently follows it up till the supplies actually reach the ryots is likely to (a) ensure timely and adequate supply of inputs at least for priority items, (b) and help the department to effectively record the priorities in the State agricultural pattern by influencing every ryot at least those who borrow and use improved seeds, fertilisers and pesticides.

5.7.8. Fertiliser consumption varies not only as a function of the crop, but also as a function of the soil. The quantum of production is adversely affected not only by inadequate application of fertilisers but also by excessive application. A correct recommendation regarding the quantum and composition of the fertiliser application can be made only after knowing the composition of the soil. There are at present 13 soil testing laboratories and 2 mobile laboratories and enough soil samples have been analysed to prepare fertility maps of districts and panchayat unions. Based on this, correction factors could be applied to demands arrived at on the basis of farm plans.

5.7.9. The aim should be to persuade the ryot to have the soil from his lands tested and the results incorporated in his farm plan. When this is done the fertiliser demands, worked out on the basis of farm plans will be realistic.

5.7.10. The demand forecast for all inputs, and particularly for fertilisers must be made by the Agriculture Department on such scientific lines. The present method of the Board of Revenue estimating the demand, in consultation with the Collectors cannot be regarded as happy. In respect of pool and non-pool fertilisers the Additional Director (Programme), should give the Board of Revenue a District-wise demand forecast made on the basis mentioned above. The Board should respect the District-wise demands furnished by the Additional Director while making allotments to Collectors. Similarly the Collectors must respect the Taluk-wise and Panchayat Union-wise demand figures given to him by the Joint Director of Agriculture while making Taluk-wise allotments. The Deputy Agriculture Officers must verify whether the Village Credit Societies release the fertilisers to the ryots as per the farm plans.

5.7.11. It is incidentally necessary to examine whether the Board of Revenue should necessarily be in the picture for fertiliser indenting and distribution. At present the Director of Agriculture administers the Fertiliser Control Order, licences the dealers, inspects and ensures that no malpractices are allowed in the trading of fertilisers. In respect of 'non-pool' fertilisers he liaises with the producers and fertiliser mixing units, and matches the movement of fertilisers and encourages the movement of stocks in the needed areas, etc. He also influences the actual retail sales through farm cards. He has, however no such role in relation to 'pool' stocks. He has the responsibility to estimate Union-wise requirements, but the Board is under no obligation to respect it at the time of allotment. The Board indents and pays for the 'pool' stocks, transfers them to the Thanjavur Co-operative Marketing Federation and Tamil Nadu Co-operative Marketing Federation and later orders them to shift the stocks to Districts and Panchayat Unions as decided by it on the advice of Collectors. Surprisingly it is the Board, and not the Directorate of Agriculture, which stipulates the end-use of fertilisers. The need for 2 agencies to operate in this area is difficult to understand. It would appear that in no other State any agency other than the Agriculture Department is involved in this work. The Commission has elsewhere recommended that the distribution of fertilisers be entrusted to a Government Agricultural Inputs Trading and Financing Company. In that event, even the need to co-operate with the Co-operative agencies in this regard will disappear. It may be advantageous in that context to transfer all the work relating to pool and non-pool fertilisers to one single agency, and that agency may be the Directorate of Agriculture—As it is the most competent one to estimate properly the fertiliser needs, to lay down agricultural and territorial priorities and ensure the timely supply.

5.7.12. In the context of world-wide shortage of fuel oil and naphtha and chemical fertilisers, the department will have to concentrate on the compost and green manure development work with renewed vigour. Extensive use of the cow dung gas plants which produce gas as fuel and sediments as Nitrogen-rich manure, free of weeds, may have to be resorted to. The use of the cow dung gas plants produces manure in a few days, while normal composting methods needs a minimum of 3 months to produce manure. The Khadi and Village Industries Board, is planning to make available a large number of such plants. The officers of the Department charged with compost development work will have to play an important role in popularising them. Soil analysis studies made all over the State seem to indicate that in most areas the soil in this State needs only nitrogenous fertilisers and that the need for Potassium and Phosphorous is insignificant. Steps such as the one indicated above should be valuable in this context.

SOIL ANALYSIS.

5.8.1. Soil testing is necessary for the purpose of correcting the excess acidity or alkalinity in the soil and for the purpose of recommending the appropriate dosage of fertilisation required to get the best output from the fields. The NPK ratio in the mixed fertiliser has to be adjusted to suit the extent of NPK deficiency or sufficiency in the soil. Frequently soil analysis leads to appreciable economy in fertiliser application and on this ground has now assumed added importance as the fertiliser prices are likely to soar shortly.

5.8.2. Similarly analysis of the water used for irrigation can also lead to better agronomic practices. This aspect has assumed importance, as the ground water in certain areas in this State is saline.

5.8.3. This state took the initiative in this regard in 1956 and set up the first soil Testing Laboratory in Coimbatore. At present there is a soil Testing Laboratory in every district besides two mobile Soil Testing Laboratories. The 13 Soil Testing Laboratories have a total annual capacity of 6.68 lakhs samples, and since 1956, a total of about 16 lakhs samples have been analysed. The soil analysis for the ryots is done free of cost. The two mobile Soil Testing Laboratories can handle about 24,000 samples a year.

5.8.4. Soil testing has been done as a campaign by the department and the coverage in all districts except Thanjavur has been generally on the basis of one sample for every 25 acres of irrigated area. In Thanjavur district the coverage has been more intensive being of the order of one sample for every 5 acres. Based on these results the department has been able to prepare Block-wise fertility maps, which should be of great help in fertiliser planning for the state.

5.8.5. The main thrust of the Soil Testing Programme has so far been the desire of the department to acquire a knowledge of the composition of the soil in the various parts of the State the Commission feels that time is now opportune to shift the emphasis to the service aspect of the soil test work. The ryots must be educated to understand that the soil analysis is the first step for formulating intelligent farm plans and must be persuaded to create voluntary demands for the soil test.

5.8.6. Soil need to be tested once in $3\frac{1}{4}$ years as fertiliser application and rotation of crops do tend to change the composition of top soil. One of the main tasks of the regular extension staff should be persuade every ryot to have the soil of his lands tested once in $\frac{3}{4}$ years. They will also have to arrange for demonstrations to show how cultivation based on Soil Testing advice leads to better yields at lower cost.

5.8.7. Soil Testing is now being done free of charge. It may be desirable to consider whether a reasonable fee may be levied for those who own more than $\frac{2}{3}$ acres of wet lands. The receipts may help the laboratories to expand and modernise themselves.

5.8.8. A recommendation is being made elsewhere in this report that the fertiliser and pesticide testing work may be added on to the Soil Testing Laboratories in each district. These composite laboratories may be headed by an officer of the rank of a Deputy Director. The laboratories will continue to be part of the Research Wing and they will be supervised by the Additional Director (Research). However the head of the District Composite Laboratory will be administratively responsible to the Joint Director (Agriculture) of the District, so that there may be perfect co-ordination between the laboratory and the extension staff.

PLANT PROTECTION.

5.9.1. It has been estimated that about 20 per cent of the agricultural production is lost on account of plant diseases, pest fungus attacks and weeds. The problem is tackled by evolving strains resistant to pests and diseases, by prophylactic and pest control spraying, and by controlling the pests through parasites, deweeding either manually or by using weedicides. One of the main tasks of the department is to educate the farmer on the proper use of pesticides and weedicides and make available to him the chemicals and spraying equipments. A study made by the National Council for Applied Economic Research in 1967 showed the extent to which the practice of pest control work has spread to the farmers in respect of selected crops.

Crop.	Percentage of cultivators who used pesticides.
Paddy	52.7
Jowar	30.3
Cotton	56.4
Sugarcane	31.8
Chillies	96.3

5.9.2. The extent covered by prophylactic and epidemic spraying in 1971-72 can be seen from the following table :

	Gross cropped area in million acres.	Area sprayed in million acres.	Percentage of coverage
Food Crops	14.25	8.5	60%
Non-Food Crops	5.00	4.7	94%

5.9.3. Plant protection work in the department is supervised and guided by the Joint Director (Extension). He is assisted by a Deputy Director and a Deputy Agricultural Officer (Plant Protection) at the headquarters. In Thanjavur district which is an Intensive Agriculture (District Programme) district, there is a Deputy Director looking after the plant protection work. In respect of other districts, the plant protection work is supervised by the District Agriculture Officer (Plant Protection) attached to each of the five Regional Deputy Directors. There is a District Agricultural Officer (Plant Protection) for each of the three multiple cropping and two Integrated Dryland Development Projects. Four District Agricultural Officers (Plant Protection) are attached to 4 of the 7 Farmers' Training Centres for National Demonstration work.

5.9.4. The regular District Agricultural Officer-in-charge of the Revenue Division is responsible for the plant protection work in his jurisdiction in respect of all crops including high yielding variety of paddy. There are 127 Deputy Agricultural Officers to assist the 43 District Agricultural Officers in this regard. Besides this, 11 Deputy Agriculture Officers are attached to the parasite breeding centres catering to the Coconut Development Scheme. Five more Deputy Agricultural Officers (Plant Protection) are attached to the Multiple Cropping Programme and Intensive District Development Programme. 153 Plant Protection Maistries are attached to the 125 Deputy Agricultural Officers. Thanjavur district has 36 sprayer mechanics at the rate of one per Block. The five Regional Deputy Directors have 7 mechanics to cover the rest of the Districts. 21 sprayer mechanics are attached to Special Crop Promotion Projects like Intensive Cotton Development Programme, Oilseeds and Intensive District Development Programme.

5.9.5. Thus one Joint Director, two Deputy Directors, 14 District Agricultural Officers, 144 Deputy Agricultural Officers, 153 Demonstration Maistrries and 64 Mechanics are engaged in the plant protection wing. Normal plant protection extension work involving such activities as (a) convincing the ryots of the efficacy of plant protection operations through demonstrations and exhibitions, (b) supplying pesticides and sprayers for sale through agricultural depots, (c) hiring departmental sprayers to the ryots, (d) offering individual ryots plant protection advice, (e) persuading the ryots of the village to agree to mass epidemic spraying whenever necessary, etc., is done by the regular extension staff for most of the crops. In respect of special crops like cotton, sugarcane, oilseeds, etc., the Crop Special Staff are expected to do these items of work.

5.9.6. The special plant protection staff offer specialist assistance to these two kinds of extension staff. It would appear that their responsibilities include (a) estimating the requirements of chemicals and sprayers, (b) helping the directorate to purchase them, (c) quality control work relating to pesticides, (d) identifying the need for organising epidemic spraying, (f) supervision of the sale of pesticides, etc. In the recent years they are associated with adaptive trials.

5.9.7. The Commission feels that the lack of clear appreciation of its precise role, is the real problem with this Branch. Answers to the questionnaire issued by the Commission shows that both the people engaged in this work and their colleagues in other branches are unable to state precisely the role of these persons. The Commission hopes that this defect would be remedied.

5.9.8. The Commission has already recommended that the trading and hiring activities should be transferred from the department to the State Inputs Trading and Financing Company to be set up. This company may also offer to the ryots spraying service. The Department at present does not offer this service in this form. It hires sprayers, it sells chemicals and helps the ryot to get the spraying done using his own labour. This is a clumsy and time-consuming procedure and also results in the sprayers being handled and spoilt by persons who have no knowledge of their working. The new company on the other hand can offer to spray the fields and collect a fee based on the acreage covered. This company will also encourage co-operatives and individuals especially the educated unemployed in the rural areas to organise their own spraying service agencies, by financing them at a lower rates of interest, giving them pesticide formulations preferentially and by providing training classes for sprayer mechanics. The aim of the company should be to withdraw from spraying work in a few years after creating adequate number of private and co-operative spraying organisations. It may however undertake aerial spraying when necessary.

5.9.9. The Commission is of the view that the plant protection work should be directed and guided at the district level by a senior and experienced specialist and that the plant protection staff should play a key role in adaptive research work in the district. The role of the Plant Protection Specialists must be clarified as teachers, trainers or guides of the normal extension staff in relation to plant protection technology.

5.9.10. To achieve this there should be a restructuring of the district staff. The Joint Director of Agriculture in charge of each revenue district will have a subject matter specialist for plant protection in the grade of a Deputy Director. In the smaller districts, this post may be held by an Assistant Director. At the headquarters he may be assisted by one Deputy Agricultural Officer (Plant Protection) working under the control of the Assistant Director in charge of the Taluk. Each of the Deputy Agricultural Officers may be given one or two demonstration maistrries.

5.9.11. They will participate in the organisation, the adaptive research trials along with their counterparts in the wings of Agronomy, Soil Chemistry and Water Management. As a result of these adaptive research trials, they should modify the pest control packages given by the research institutions to suit the local conditions and organise training camps and seminars (a) for the regular extension staff, (b) for the staff of the private spraying agencies and co-operatives undertaking spraying to explain

to them the details, methodology and the limitations and the merits of the proposed plant protection practice. The extension staff will thereafter carry the message to the ryots who may seek the help of the spraying organisations.

5.9.12. The plant protection staff will also attend to the following items of work. (a) estimating the plant protection chemicals and spraying equipments requirements and passing them on to the head office and the Inputs Trading Company, (b) helping the extension staff to organise exhibitions and demonstrations to convince the ryots about the efficacy of plant protection practices; (c) undertake pest surveillance work and to identify the need for epidemic spraying.

5.9.13. When plant diseases break out as an epidemic or when pest attack spreads fast, it is necessary to spray all the lands in whole villages to control the spread of the pest or the disease. Sections 6 and 7 of the Madras Agricultural Pests and Diseases Act, 1919, prescribe formalities before complying with which the whole State will be covered by the epidemic. At present the department is trying to avoid the issue of individual notices to the ryots, by getting a resolution from the panchayats as envisaged under section 119 (3) of the Madras Panchayats Act, 1958. The Director of Agriculture has pointed out that this is a time-consuming and long-drawn out affair, as the panchayat has to pass a resolution, notify it in newspapers, hear objections if any by giving a time of one month, and then confirm the resolution. He has therefore proposed to the Government that the Madras Agricultural Pests and Diseases Act, 1919 should be amended to enable the department to undertake epidemic or prophylactic spraying of large areas without the need to issue individual notices. The Commission agrees with the Director and recommends that the Act may be amended suitably.

5.9.14. The staff engaged in the Plant Protection work should be allowed to specialise in this activity and not posted to other jobs, except under extraordinary circumstances. They should also be given in-service training once in three years with the assistance of the Research Wing and the Agricultural University. Other things being equal, preference should be given to the holders of master degree in Plant Pathology, Entomology, Mycology, etc. while promoting Deputy Agricultural Officers to higher levels like Assistant Director and Deputy Director.

5.9.15. Many of the pesticides are poisonous and have to be handled carefully to prevent dangerous consequences. Many ryots buy various kinds of pesticides and apply them without really knowing whether they are necessary or appropriate or dangerous. It may therefore be desirable to stipulate that pesticides may be sold to ryots only on prescriptions given by Agricultural Officers. This will ensure safety economy and the application of appropriate pesticides in desired doses.

MARKETING AND QUALITY CONTROL.

5.10.1. The regulatory functions of the Agriculture Department include the quality control work done under such statutes as National Seeds Act, 1966, Fertiliser Control Order, 1957 and Insecticides Act. Agricultural inputs like improved seeds, fertilisers and pesticides are high priced, are in short supply and lend themselves easily for adulteration. It is therefore necessary to ensure that the inputs which reach the farmers should conform to the prescribed quality specifications.

5.10.2. The staff available for seed certification work and the present organisational set up have been mentioned already in the chapter on Protection and Distribution of Improved Seeds. One Deputy Director, two District Agricultural Officers, 24 Deputy Agricultural Officers and six Demonstrations Maistries are engaged in the seed certification work. There are two seed testing laboratories, one at Coimbatore and the second at Madurai, each under the control of an Assistant Botanist.

5.10.3. The quality control work relating to pesticides and fertiliser is done by the regular extension staff. Two laboratories each under the control of an Assistant Chemist at Coimbatore and Madurai attend to the analysis of fertiliser samples. There are seven laboratories at Coimbatore, Aduthurai, oKoilpatti, Kanchipuram, Madurai, Tiruchirappalli,

Trichy, and Salem for testing pesticides samples each under the control of an Assistant Chemist. The staff of these laboratories belong to the research wing of the department, and administrative control over these laboratories are exercised by Additional Director, Research.

5. 10. 4. The Commission is of the view that the regular extension staff of the department attending to development and promotional work should not be asked to attend to the regulatory work under the 2 statutes and the Fertiliser Control Order. Similarly seed certifying staff should not be part of the wing which is responsible for the production of seeds.

5. 10. 5. The Commission therefore, recommends that a separate wing with a vertical hierarchy may be organised to attend to these regulatory functions. In the reorganised set up recommended for the directorate, this work will be looked after by a Joint Director assisted by one Deputy Director and 3 Assistant Directors. Each revenue district may be provided with 1 Assistant Director and 4 Deputy Agricultural officers exclusively to attend to this work and the relating to Agmark grading, market surveys and market intelligence work. The officers in the districts have to be provided with jeeps and motor cycles to enable their quick movements within the district. The staff of 1 Deputy Director, 18 Assistant Directors and 60 Deputy Agricultural Officers for this work will be available within the department when reorganised as recommended by the Commission.

5. 10. 6. From the legal point of view, it is not desirable to have the laboratories for testing pesticides, fertilisers and seeds under the administrative Control of this group of officers. These laboratories may continue to be under the control of the research wing. There are at present 13 Soil Testing Laboratories, 7 Pesticides Laboratories, 2 Fertiliser Testing Laboratories and 12 Agmark Laboratories. Analytical work done by all these laboratories is of the same variety and there seems to be no reason why there should be a separate laboratory for each commodity to be tested chemically.

5. 10. 7. The Commission recommends that the staff and facilities now available in the Soil Testing Laboratories, Fertiliser Laboratories, Agmark Laboratories and Pesticides Laboratories may be pooled and one common laboratory may be organised for each district to attend to the chemical analysis requirements of the department as a whole. These laboratories may be designated as District Agricultural Laboratories and each of them may be headed by a chemist in the rank of a Deputy Director. Since these laboratories have to handle a large number of samples for the same type of analysis, they have to be provided with rapid and batch analytical equipments. There are at present 2 mobile soil testing laboratories. These mobile laboratories also can handle the analysis of pesticides and fertilisers if they are equipped with rapid analysis equipments. In course of time the government may try to provide a mobile laboratory for each district.

5. 10. 8. Well equipped and staffed chemical analytical laboratories organised by the Industries department exist at Madras, Madurai and Coimbatore. These laboratories can be used whenever there is an unusual surge of samples or in appeal cases.

5. 10. 9. The Commission further recommends that a committee consisting of the Joint Director (Chemicals) of the Industries Department, Government water analyst and Additional Director (Research) of the agriculture department may go into the question of modernising the techniques of analysis and the equipments in these laboratories.

5. 10. 10. The present methods of designating the samples at the time of sending to the laboratories do not seem to ensure secrecy, necessary to prevent any influence from being brought on the analytical staff. These methods need to be improved to ensure total secrecy.

5.10.11. The work of the department in relation to Regulated markets, evolving of standards for agricultural produce, and quality marking to facilitate commerce may also be attended to by the Joint Director in charge of the quality control work in reorganised

set up envisaged by the Commission. He may be assisted by one Deputy Director and 2 Assistant Directors for this purpose at Headquarters. The Agmark certification, Kapas grading, administration and promotion of regulated markets, preparation of weekly market intelligence reports and publicising them will all be attended to by this branch. The existing special staff for these activities will stand transferred to the control of this Joint Director.

5. 10. 12. In addition to this, this branch will also attend to the evolution of standards for a variety of agricultural produce to facilitate commerce, somewhat on the lines on which standards have been evolved for such commodities as cashew, spices, cardamom, etc. There is a real need for evolving such standards for paddy, rice, millets, pulses and vegetables like tomatoe, potatoe, aubergines and fruits like mango, guava, banana, etc. Many of these standards may also have export significance. The department will have to discuss the matter with the Export Inspection Agency. The Indian Standard Institute and the agricultural Ministry of the Government of India and initiate steps of all India significance.

5. 10. 13. The quality control officers of the Agriculture Department should play an important role in ensuring that the paddy procured by the Civil Supplies Department /Corporation is of the prescribed quality. The Department should evolve detailed and practical quality specifications taking into account the need for the paddy of the pur-transported and sold in good condition and check periodically the quality of the purchases. The present machanisms do not seem to work well, as most of the time, the quality of rice sold at the consumers' points shows clearly that the paddy purchase had not always been very efficient.

5. 10. 14. There are at present 125 regulated market yards in this State and an analysis of the quantity of agricultural produce marketed through these in comparison with the total marketable surplus of the State shows that so far these markets have made no impact on agricultural marketing. While this is the overall picture, certain markets in Tindivanam, Villupuram, Vridachalam, Tirukoilur, etc. have achieved a remarkable success as they handled 95 per cent of the producers and 98 per cent of the produce in their areas. The market-yards are administered by eleven district market committees and the State Board co-ordinates and guides them.

5.10.15. The power given to the Government under the recent amendment to the Tamil Nadu Agricultural Produce Markets Act to compel the ryots of given areas to sell the notified crops only through the regulated markets has to be exercised freely. This must however be accompanied by a sharp improvement of the services available in the market-yards. The State Ware-housing Corporation should function in close co-ordination with the Regulated Markets to help the ryots to hold the goods till he gets better prices. Greater publicity should be undertaken to attract the buyer and all the State purchases through Food Corporation of India, Civil Supplies Corporation should be through these Markets. At present Section 35 of the Tamil Nadu Agricultural Produce Markets Act (Act 23 of 1959) exempts Government purchases from the scope of this Act. Methods of purchase adopted by the Civil Supplies Department, etc., appear to clash with that stipulated in the Regulated Markets. For example the Civil Supplies Department has a price for paddy with a certain moisture content. If the paddy happens to have a moisture content higher than the prescribed percentage then the Civil Supplies Department asks the former to increase the quantity of paddy for the given price, instead of reducing the price for the given quantity. This is not in accordance with the rules of the Market Committee. Problems of this sort need to be sorted out between Agriculture and Food Departments and arrangements made to route the State Purchases through the Regulated Markets so that they may acquire their rightful status as the trade centres of the area.

5. 10. 16. Regulated Markets are administered by elected Market Committees. The preparation of the electoral roll, the methods of election, methods of licencing and taxation adopted by them need to be re-examined in the light of the past experience. Most of the Market Committees resort to licencing the traders in the area and manage to collect sizeable revenues even though no commodity ever enters the Market-yard

Most of the Committees have a great deal of unutilised funds which they do not seem to know how to spend usefully. The Director of Agriculture is the Administrative authority for these Committees. The recent creation of a State Board and the proposal to give it a statutory basis create a duplicate agency in the field. The need for such a move is not quite clear. It would appear to be sensible to leave the work of administering and co-ordinating the work of the market committees exclusively to the Director of Agriculture. If however the Government ultimately decide to give statutory basis to the State Board, it may be desirable to transfer the entire marketing work of the Department with its staff to the Board.

5. 10. 17. Of the 11 Market Committees, 7 have Secretaries who are employees of the Committees. The remaining Societies have District Agricultural Officers as Secretaries, deputed from the Department. The conditions of service of the employees of the Market Committees need to be improved by taking such steps as constituting a common cadre, making them eligible for retirement benefits like other Government servants, etc.

AGRICULTURAL ENGINEERING

5.11.1. The main responsibilities of the agricultural engineering branch are soil conservation, water management, hiring of farm and drilling equipment and administering workshops to service these equipments.

5.11.2. The Commission has already recommended elsewhere in this Report that the work of hiring farm equipments and administering workshops to service them should be transferred along with the staff to the Agro-Industries Corporation. The Department may retain only such of those farm equipments as are needed actually on the Government farms and a Central Workshop to service them if necessary. There is no need for the Department to run Service Centres to service the equipments of the farmers as there are several agencies in the field for this purpose. The drilling equipments are now being hired to the ryots by the department at subsidised low rates. Even after the transfer of this work to the Tamil Nadu Agro Industries Corporation, the rates may have to be kept favourable to the ryots.

5.11.3. This will leave the Branch to concentrate on the soil conservation and water management work, and the work relating to farm mechanisation advice. The staff may be so re-arranged that each district with extensive soil conservation work has one (or more) District Agricultural Engineer (Soil Conservation). Every District may be provided either with one District Agricultural Engineer or Assistant Agricultural Engineer for water management works. The engineers in charge of these two items of work should be made administratively responsible to the Joint Director (Agriculture) at the district level to ensure co-ordination.

5.11.4. The water management work must receive greater attention. The type of soil and water conservation projects executed in Siddamalli should be repeated extensively all over the State. This will result in economy of water, better production and better irrigation. These schemes cost less than Rs. 200 per acre, practically cent per cent of which is spent in the village in simple unskilled earth work. As a project for generating useful rural employment it is incomparable. The State Land Development Bank has adequate funds to finance this scheme all over the State and the Department should launch the scheme on a massive scale all over the state.

5.11.5. The second area in which the agricultural engineers need to concentrate is in giving to the irrigation authorities a clear idea of the water requirements in terms of quantities, duration and timing for the various tracts. This will help the Public Works Department to regulate irrigation flows more intelligently.

DELEGATION OF POWERS

6.1. One of the main objects of the reorganisation of the Agriculture Department, involving the positioning of the Joint Directors in each District, is to enable local decision making and to prevent the local problems from going up to the Director of Agriculture

and Government for decision. This will be possible only if the District Joint Directors and Taluk Assistant Directors are delegated with adequate powers to handle local problems. Otherwise the main object of the reorganisation will be defeated.

6.2. Greater delegation of powers will have to be made in respect of personnel matters and financial transactions. In respect of personnel matters the governing principle should be that the Taluk Assistant Director should be competent to pass orders in respect of all the officers and staff under his control. Thus matters such as drawing pay bills, Travelling Allowance bills, medical bills, sanctioning tour advance, countersigning Travelling Allowance and medical bills, sanctioning of arrear claims, casual leave, earned leave, surrender leave and medical leave, declaration of probation, sanctioning of increments, advances from General Provident Fund, festival advances, etc. for all the staff under his control should be within his competence. Similarly he should have the power to transfer the staff within his jurisdiction and to reallocate work among his staff to suit the programme on hand. He should also be the custodian of the Service Registers, Record Sheets and Personal Files for all his officers and staff. He should be the appointing authority for all the Last Grade Government Servant and he should be capable of imposing minor punishments on all staff except the Deputy Agricultural Officers and Staff of a like rank.

6.3. Similarly most of the personnel matters relating to the officers and staff within the District must be solved at the level of the District Joint Director. It may be useful to organise all the staff of the Department up to and inclusive of the officers of the level of Deputy Agricultural Officers into District Units. The District Agricultural Officers, Deputy Directors, etc., may continue to be a State Unit.

6.4. Personnel matters going up to the Director of Agriculture must be reduced to the minimum. Promotion of Deputy Agricultural Officers, Assistant Directors, Deputy Directors, interdistrict transfers, recruitments through Tamil Nadu Public Service Commission are examples of the kind of matters which may go up to the Director of Agriculture or the Government. The District Joint Directors may exercise their personnel powers not only in respect of the staff belonging to the Extension Wing, but also in respect of the staff belonging to the Research, Administration, Accounts and Agro-Engineering Wings. This will effectively reduce the flow of personnel work to the Directorate of Agriculture thus enabling it to concentrate on policy matters.

6.5. On the financial side there is need to raise the powers of the Director of Agriculture taking into account factors like (a) increase in the cost of materials and labour, (b) the need to enable him to move fast so that his programmes may not miss the relevant agricultural seasons. (c) his having a fairly senior financial adviser who could assist him to observe the financial proprieties.

6.6 The District Joint Directors will have to be given powers for the purchase of goods and services consistent with the volume and value of work they are expected to turn out. In other words his powers will have to match his responsibilities to lend substance to the latter. Otherwise we would merely have installed a high paid officer to do the work of a low paid one, and defeated the object of the reorganisation.

6.7. In its report on Financial Administration the Commission proposes to classify all the spending officers into 5 categories, viz., Secretaries to Government, Head of the Department, Regional Officers, District Officers and Heads of Offices and to delegate to them powers consistent with their responsibilities in such areas as creation of posts, purchase of services and goods, sanction of grants, loans and subsidies, execution of works etc. This will apply to the Agriculture Department with the proviso that the District Joint Directors must be treated as Regional Officers for this purpose. The Taluk Assistant Director will be treated as a District Officer. The acceptance of reforms on these lines covering all Departments may take some time. Meanwhile the powers of the Director of Agriculture, District Joint Directors and Taluk Assistant Directors, may be revised as indicated in Annexure No. V. This is based on the needs of the Department, as seen from a study of all the Government Orders issued by the Government in Agriculture Department in the year 1969-70.

EVALUATION

7.1. Apart from the departmental reviews in relation to targets, there is now no systematic evaluating mechanism. The defect of the departmental reviews is that while it may indicate successful achievement of targets laid down, it may be silent on the impact of the activity on agricultural production. The review may for example say that improved seeds have been distributed for 100 acres, or that water management work has been completed for 100 acres or that 100 sprayers have been purchased. But they have no means of indicating that the seeds did not give the expected yields, or that the water management works did not really lead to any saving in the consumption of water or that the sprayers remained unserviceable all through the year.

7.2. The reviews do perform a necessary control function, that of verifying whether the work given has been performed. But we need something more than this while we are performing a service activity. We need to study the result of the work and in that light, establish the relevance or otherwise of the service.

7.3. Detailed statistical data collection regarding the various components of agricultural production can indeed give an indication whether the promotional work of the department is relevant to production. But a programme executive will need more specific data to evaluate the individual steps which cumulatively lead to increase or decrease in production.

7.4. The evaluation has to be partly internal and partly external. In the set up proposed by the Commission, both at the State and at the District levels the second senior-most officer has been given the task of planning, monitoring and evaluating all the programmes of the organisation. The evaluation part of this covers something more than the type of progress reviews now made. The targets will have to be spelt out in such a way that it includes the quantum of an activity and the quantum of results it is expected to produce. These officers at least on a random sampling basis analyse the impact of a few programmes on production and produce authentic feed back for intelligent formulation or modification of policies and programmes.

7.5. External evaluation has to come from such agencies as Planning Commission. Economic Research and Analysis Cell and increasingly from outside consultants and social research organisations and universities. Government should sponsor studies by social scientists and agricultural-economists, calculated to bring out the nature of impact of the various Government schemes, on the rural agrarian population. These studies will be free from official bias and involvement and are likely to be a corrective to the official evaluations. Feed back of this variety will help the Government formulate realistic programmes relevant to the goal of increasing agricultural production.

CO-ORDINATION.

8.1. Agricultural development is an area of development activity which calls for a high degree of co-ordination and mutual understanding among several departments and organisations. Within the Agriculture Department itself there is need for co-ordination at the District and Taluk levels among the branches like extension, agricultural engineering, research, training, etc., and the reorganisation proposed by the Commission is calculated to achieve this.

8.2. The Department of Agriculture has to co-ordinate with outside agencies like the Agricultural University, Agro-Industries Corporation, Civil Supplies Corporation, Food Corporation of India, State Warehousing Corporation, etc., and with other departments like Irrigation, Electricity, Co-operation, Rural Development, Revenue, Food and Food Production, if it has to achieve the objective of agricultural development.

8.3. Considering the farm and rural economy there is also a need for co-ordination between agricultural development and development in allied and inter-dependent fields like animal husbandry, milk, forests, fisheries, etc.

8.4. The Commission has recommended in its report on Panchayat Development Administration, the creation of the post of an Agriculture Production and Panchayat Development Commissioner in the rank of the Member of Board of Revenue (in the place of the present post of Food Production Commissioner) who will also be an ex-officio Secretary to Government. The object of this recommendation was to create a high level functionary who will be able to inspire, control and guide the work of the District Collectors giving them an agricultural orientation. He will also himself be the head of the department of the Panchayat Development Administration. Thus Panchayat Development work and Agricultural Development work will be linked at the Taluk, District and State levels making the Block staff more responsive to the needs of agricultural development work.

8.5. This Commissioner will also co-ordinate the activities of the various departments relevant to agricultural development, both at the level of heads of the departments and at the levels of Secretaries. At the level of head of Departments he will preside over a Committee consisting of Director of Agriculture, Director of Animal Husbandry, Milk Commissioner, Chief Engineer (Irrigation), Chief Engineer, Tamil Nadu State Electricity Board, Registrar of Co-operative Societies, Director of Statistics, Vice-Chancellor, Agricultural University, Director of Fisheries, Chief Conservator of Forests, and Director of Sugar. Through this Committee he will facilitate co-ordinated planning, concerted action and also seek to solve inter-departmental problems.

8.6. At the Secretariat level he will act as a Principal Secretary in respect of departments like Agriculture, Food, Forests, Co-operation, Public Works Department, Rural Development and Local Administration, ensuring co-ordination among them. The Commissioner should not be involved in any day-to-day activities of any of these departments, nor should he be tied down to his desk. For this purpose he should have a deputy to look after the day-to-day working of the Panchayat Development Department. The work relating to indenting, purchasing and moving of fertilisers now attended to by the Food Production Commissioner could be transferred to the Director of Agriculture, so that the new Commissioner need not waste his time in operations which can well be done by a single department.

8.7. The Commissioner will have to play his role with subtlety and understanding for he should not reduce the importance of any Secretary or any of the heads of departments or seek to take over their functions. He should not have a large subordinate office which will seek to perpetuate and expand itself by merely demanding a tremendous amount of data from all the agencies. Each Department (both Secretariat and executing) should nominate its second or third senior-most officer for specific liaison with the Commissioner who may use them for specific field or office assignments.

8.8 At the District level, co-ordination between the number of vertically organised departments is now effected by the District Collector without interfering in the internal administration of any of these departments. Views have been expressed to the effect that in respect of departments like Agriculture, Animal Husbandry, Forests, Fisheries, Milk, Irrigation, Co-operation, etc., there should be a District Officer and a District organisation to which the district staff in all these departments will be responsible. This District Officer could be drawn from any one of these departments. The Commission has carefully considered this proposal and has come to the conclusion that such an arrangement will not be an improvement over the present situation. First of all even the proposed organisation will not be self-contained and have to look to a number of other departments for services and facilities, and therefore, will have to arrange for co-ordination with them. Secondly, the new organisation cuts across the vertical organisation of many departments and makes segments subordinate to a common organisation. Under the present arrangement in which the Collector performs the role of a co-ordinator, he covers all the departments in the district and subordinates none of them to him. Internal working of the departments is left to themselves and the Collector comes into the picture to solve inter-departmental problems and to aid particular departments in influencing the rest for concerted action.

8.9. The Commission is of the view that the existing pattern of the Collector co-ordinating all the departments at the district level may be continued. The Agricultural Production Commissioner who will have control over the Collector, can be expected to influence the Collectors to give agricultural development work, the priority it deserves.

8.10. A new area of co-ordination has become important in the recent years. This is between the departments and the newly formed companies which have fully or partly taken over the functions of the department. These companies have a tendency to stress their identity, by cutting off links with the department. In respect of agriculture department, there is at present only one company, viz., Tamil Nadu Agro Industries Corporation which is connected with the work of the department. The Commission has recommended the formation of new companies for the production of seeds, sale of inputs, etc. It is absolutely necessary to ensure that these companies and the department function in unison. It may be desirable for this purpose to post the Secretary/Agriculture or Director of Agriculture as Chairman of these companies and fill the posts of Managing Directors from among the Joint/Additional Directors of the Department, in many cases giving them an ex-officio status in the department. This will ensure better co-ordination and avoid duplication of staff and efforts.

ROLE OF THE PRIVATE INITIATIVE.

9.1. In the last 30 years of the work relating to the promotion of agriculture and the provision of agricultural services like soil analysis, seed supply, supply of pesticides and sprayers, farming advice, etc., has become the monopoly of the public sector. Private servicing organisations and private farm consultants are almost non-existent. Private sector plays a limited role in such areas as production of certified seeds, sale of pesticides and non-poll fertilisers.

9.2. There has, in the past, been generally, a shortage of technical personnel and most of the graduates coming out of the agricultural colleges walked straight into government jobs. There were just no unemployed graduates who could think in terms of setting up a private practice. Secondly the Government offered all its services free of cost, thereby unconsciously killing all possible competition. Till recently it had been difficult for technocrats to get financial assistance for their private projects of consultancy service, etc., from any institution.

9.3. The Commission feels that the Government should encourage private initiative in the field of agricultural services. The climate at present is suitable for such a development.

9.4. The output of graduates from agricultural colleges is much larger than what the government can legitimately employ. The demand for farm consultancy service has been generated as a large number of the farmers have come to know that it is profitable for them to follow competent advice. The department is groaning under the weight of its commercial operations relating to seeds, pesticides, sprayers, etc. In such fields as soil analysis increasing sales points, increasing the extension staff, etc. Government has monetary constraints for unlimited expansion.

9.5. There is also another reason why the private initiative in these areas must be encouraged. Since all the advice and services of the department are offered free of charge, they partake the character of selective patronage. Those who can't and do not get them have no other source of service. Secondly the basis that the service is offered free of charge by civil servants whose stake in the consequences of their advice/service is so minimal as to the almost non-existent detracts seriously from the value and the quality of the service. Finally certain narrow departmental objectives and targets will influence the departmental officer more than the real interests of the farmer while giving advice to him on the choice of crops, seeds, pesticides, etc.

9.6. We have practically no evaluating mechanism at all and therefore we really do not know how to compare the quality of the service offered by the department in a monopolistic context. From these points of view it would appear to be desirable to promote private initiative in such fields as farm consultancy, production and sale of seeds, pesticides, fertilisers, etc. and also in the field of pest control. The quality of the service offered by the private consultants will be influenced by the high stakes of

the consultant in the consequences. He will get further business and succeed only if his advice benefits the ryots pointedly. This concern to succeed will inform his efforts resulting in a high quality of the service.

9.7. There is no reason why individual graduates or a small group of them cannot offer a farm consultancy service covering the area of one or two villages, for a modest fee and earn a comfortable living out of such a venture. Like the medical graduates who set up private practice for treating human beings, agricultural graduates should be able to set up practice to treat plants and to handle agricultural problems.

9.8. Government may bring a legislation to regulate the registering and licencing of such private consultants by a Council of Agricultural Graduates. Through the various financing institutions, Government may encourage the organisation of such private farm consultancy service, private retail sales points for the sale of inputs, private laboratories for soil analysis, etc. by offering lower rates of interest, preferential supply of inputs, etc. This will enable the ryots to get a higher quality of service, and the department will get a rival source against the efficiency of which, they can compare the efficiency of their services. More than anything else, it will provide satisfactory and gainful employment to a number of agricultural graduates.

OUTLOOK FOR THE FUTURE

10.1. Our State has reached self-sufficiency in the production of cereals, mainly paddy, largely on account of the green revolution caused by the high yielding varieties of seeds. In the agricultural front we have reached a stage in which further progress calls for more sophisticated planning and more intelligent efforts.

10.2. About 70 per cent of the cropped area is under cereals and pulses. Only 30 per cent is under cash crops like sugarcane, spices, fruits and vegetables, oilseeds, cotton, coffee, tea, tobacco, etc. From the point of view of stepping up the State income from agriculture, the area under the more remunerative crops has to be increased. This will imply that productivity has to be further steeply increased in food crops, as the area will decrease.

10.3. Besides this there is also an independent compulsion to step up the productivity in respect of most of the cash crops like sugarcane, cotton seed, oilseeds, etc. Notwithstanding the enormous staff and monetary inputs made in the past, the progress (both in quantity of production and productivity) in respect of such crops has been insignificant. The relevant of the various schemes followed for these crops need to be examined critically before continuing them.

10.4. Special attention has to be paid to the production of vegetables, fruits, and flowers which have a high unit price and which are in short supply. From the point of view of improving the nutritional standards of the people also these crops deserve special attention.

10.5. Export crops earning foreign exchange like pepper, cashews coffee and tea needed to be looked after with more than ordinary care.

10.6. The re-organised set up proposed by the Commission will have the operational flexibility to respond to the priorities decided upon. Since there will be self-contained District units, priorities and objectives in terms of crops can be laid down for each District. There will be several Deputy Agricultural Officers under the control of the Taluk Assistant Director and the work may be distributed among them to reflect the priorities decided on at the district level, and the actual field conditions. Thus in one taluk most of them may concentrate on paddy, while in another they may all work for cotton. In a third taluk the staff may be equally divided between horticulture, oil seeds and pulses.

10.7. Future planning faces other kinds of challenges as well. On account of the oil situation in the world, fertiliser prices are bound to go up and availability is bound to become uncertain. This will call for entirely new agricultural strategies on our part. Green manure and composted manure will once again assume importance and practices using minimum quantities of fertilisers have to be evolved.

10.8. Effect of land ceiling laws on agricultural productivity needs to be studied in depth, for verifying that in respect of many crops our social and economic objectives do not cancel one another. Production and marketing of many of the cash crops and exportable crops may call for massive capital inputs, adoption of macro farming techniques and business like methods of management. Productivity studies in relation to farm sizes have to be carefully made to provide for realistic ceilings in respect of such crops.

10.9. In the organisation of industrial production and marketing, the company form allows the pooling of monetary resources of many people to their common and individual benefits. There is no reason why such pooling of the land resources of many persons should not be allowed for organising large sized farm operations. Companies formed thus at least for the purpose of producing the crops which lend themselves for macro farming techniques and which earn foreign exchange, or are likely to add substantially to the State income should be exempt from ceiling laws as they have to be competitive in the world market.

10.10. There is also another area in which capital inputs by the private sector may be relevant. The reclamation of swampy tracts involving the construction of complex drainages and dykes and pumping, the cultivation of sandy tracts by preparing an impermeable cement base at the depth of 12" to 18" etc., call for massive capital inputs and a duration of gestation period unusual in the normal agricultural activity. Efforts in this direction is best perhaps left to the initiative of the private sector ignoring for a moment the enforcement of ceiling laws, etc. Exemption from land ceilings may act as an incentive for the flow of private funds and initiative in such ventures.

10.11. Costs of the various inputs to agriculture are constantly increasing. The prices of land, water, power, labour fertilisers and pesticides are going up every day. Even the interest rates the short term loans have gone up. The increase in the price of foodgrains though steep from the consumers' point of view would not appear to have kept pace with the increasing costs of cultivation. There are serious limitations, in an economy in which general price levels are extremely sensitive to foodgrain prices, to the adoption of the strategy of the price incentives and price support policies. Lack of proper storage facilities and cash credit accommodation do not enable the farmers to hold on to the grains for better prices. Absence of any crop insurance to cover the risks of cultivation and the recent developments towards higher taxation of farm income scare away effectively entrepreneurial talents from the agricultural front.

10.12. Future policies of agricultural development have to be evolved by taking into account such diverse factors and by matching an over all view of the economy with an intelligent appreciation of the interaction between the various forces at work. The days of evolving an agricultural plan as a motely collection on unrelated schemes, to cover the plan allocation are over. Meaningful econometric exercises involving detailed input-output analysis, covering all the relevant interacting economic forces, has to precede the formulation of an agricultural plan by the Government.

10.13. The Secretariat organisation as it is constituted cannot handle responsibilities of this kind. An attempt may be made to constitute an agricultural policy cell consisting of an Agricultural economist, statistician, an agronomist, and a social scientist. This cell may continuously monitor the interaction between the various forces involved, using a computer installation, make several variations of the proposed models based on input-output analysis and recommend to the Government the shape of the policy to be adopted and the nature of the corrective action to be taken from

time to time. The Members of the cell have to be renowned experts in their respective fields and if they cannot be accommodated within the framework of Government hierarchies, they may be engaged as a consulting group. In the long run it may be advantageous for the Government to sponsor the setting up of an agricultural economic research institute with the assistance of the Universities, Agricultural University and the FAO. This institute may undertake assignments to help the Government in policy formulation.

SUMMARY OF RECOMMENDATIONS

1. At present there are too many vertically organised hierarchies of special staff in the Agriculture Department, with no horizontal linkages at the district level and below, thus leading to a high degree of centralisation, and making intelligent area planning very difficult. Nor is it justified on the ground of technical specialisation, since the special staff for various crops and schemes are freely interchangeable with the regular staff (Paragraphs 3.18 to 3.23).
2. The Department may be re-organised (a) to enable the creation of self contained units at the District and Taluk levels, capable of handling all kinds of crops and schemes, (b) to reduce the special vertical hierarchies and confine them to such activities as seed production, quality control, research and agricultural engineering only, and (c) to ensure complete co-ordination of even these activities with extension work at the District and Taluk levels (Paragraph 3.24).
3. The District Unit may be headed in the larger Districts by a Joint Director and in the smaller Districts (Nilgiris, Kanyakumari, Madras, Dharmapuri and Pudukkottai) by a Deputy Director (Paragraph 3.25).
4. The District unit may comprise of (a) one Administrative Officer, (b) One Accounts Officer, (c) one Deputy Director/Assistant Director for planning, monitoring and evaluation work, (d) one Subject Matter Specialist each (DD/AD) for agronomy, and plan protection, (e) one Assistant Director for Information (Paragraphs 3.25 to 3.27).
5. The District Agriculture Officer may be re-designated as Assistant Director and shifted from the Revenue Division to the Taluk. The Taluk unit may comprise of (a) administrative staff, (b) accounts staff and (c) three Deputy Agricultural Officers for agronomy, plant protection, and planning, monitoring and evaluation work (Paragraphs 3.28 and 3.29).
6. When the department is re-organised as shown in Annexure II, the taluk will have, besides the subject-matter specialists at the taluk Headquarters several Deputy Agricultural Officers (i.e. six on an average) for extension work who may be deployed territorially or crop or schemewise depending on the priorities decided on by the District officer (Paragraph 3.29).
7. It is also possible to modify the proposal in annexure II, for the purpose of retaining all the existing staff at the KKARI and making them service commonly both Tiruchirappalli and Pudukkottai districts as mentioned in paragraph 3.31 (Paragraph 3.31).
8. Sixty hundred and ninety-six Deputy Agricultural Officers available for distribution among 116 Taluks as per Annexure II need not necessarily be distributed uniformly at the rate of 6 per taluk. The distribution may follow priorities to be indicated by the Government (Paragraph 3.32).
9. The reorganisation may not be opposed on the ground that it involves pooling and redeployment of even the staff engaged in centrally sponsored and central sector schemes. The central assistance may continue to be claimed on the lines indicated in paragraph 3.33 and 3.34.
10. The State Government may take up with the Central Government the issue relating to the need for the latter to give up the practice of laying down staff patterns and norms for claiming central assistance (Paragraph 3.34).

11. As and when the finances of the State permit, one specialist for farm management and another for agricultural economics may be added to the District teams. (Paragraph 3.36.)

12. Each of the normal Panchayat Unions has one Deputy Agricultural Officer and 10 Gramasevaks. IADP Panchayat Unions (36) have 4 Deputy Agricultural Officers and 20 Gramasevaks each. IAAP Unions have 2 Deputy Agricultural Officers and 15 Gramasevaks each. In some districts, the special staff for HYVP schemes has been attached to the Unions. All the 374 Panchayat Unions in the State may be uniformly allowed to retain one Deputy Agricultural Officer and 10 Gramasevaks each and the special staff sanctioned for IADP, IAAP, HYVP, etc., may be transferred to the direct control of department. (Paragraphs 3.37 to 3.43.)

13. The Union Agricultural staff consisting of one Deputy Agricultural Officer and 10 multipurpose workers (Gramasevaks) will supplement the work of the agriculture department in such spheres as information, publicity and public relations. The Deputy Agricultural Officers will be the liaison officer between Panchayat Unions and the department and he will also act as the Information Officer for his area. (Paragraph 3.43.)

14. The headquarters organisation of the Directorate of Agriculture may be made compact and small by delegating to the District Joint Directors financial and personnel administration powers equal to that now enjoyed by the Director. (Paragraph 3.44.)

15. The headquarters organisation may have a Personnel Division headed by a Joint Director, a Financial Division headed by a Financial Adviser and Chief Accounts Officer, a Research Division headed by an Additional Director, a Programme Division headed by an Additional Director, an Agricultural Engineering Division headed by a Superintending Engineer and Division for Agricultural Marketing and Quality Control headed by a Joint Director. (Paragraph 3.45 and 3.46.)

16. The responsibilities of the Additional Director of Programmes may include, planning, monitoring and evaluation of the programmes, and the estimation of agricultural input needs and arranging for their timely supply. (Paragraph 3.48.)

17. The Planning Cell to assist the Additional Director may include besides the Agricultural Economist, Plant Protection Expert, Farm Management Specialist, Agricultural Engineer and the Statistician, five or six Crop Specialists covering major crops. (Paragraph 3.48.)

18. The isolated high rank of the Chief Agricultural Engineers is not in line with the priorities in agricultural administration. It would be adequate if the head of the Agricultural Engineering Division has the rank of a Superintending Engineer. (Paragraph 3.49.)

19. The Sections required for the new District Offices of agriculture may be obtained, by pooling the 45 Sections with the Director of Agriculture, and those with the Additional Director (Research), Additional Director (ICDP) and the Regional Deputy Directors and redistributing them between the Directorate and the District Offices. (Paragraph 3.51.)

20. The impact of the failure to directly recruit District Agricultural Officers during the period 1963 to 1974 will be felt after 1980 when the tenures of the Joint Directors will become short. There is therefore a need to resort to a steady and limited direct recruitment at the level of District Agricultural Officers. (Paragraph 4.4 and 4.5.)

21. Promotions may be based on a preference to be given to the possession of higher degrees like M.Sc. and Ph.D. among officers of equal seniority. The Department may aim at filling all the posts of Deputy Directors with M.Sc. degree holders and all the posts of Joint Directors with Ph.D. degree holders in the next 10 years. (Paragraph 4.8.)

22. To facilitate this liberal study leave may be given to the Officers and seats may be reserved in the Universities for such departmental candidates. (Paragraph 4.9.)
23. There is need to form sub-cadres for Plant Protection Specialists and Agronomists in the Extension Wing up to the level of Deputy Directors to enable specialisation. For the posts of Joint Directors, Deputy Directors belonging to all the 3 sub-cadres, viz., Plant Protection, Agronomy and Extension, will be equally eligible. (Paragraph 4.10.)
24. Officers at the level of Deputy Directors and Joint Directors may be exposed to the latest developments in agricultural science through summer camps organised with the assistance of ICAR and the University. (Paragraph 4.11.)
25. The facilities for foreign training available under external assistance programmes like Colombo Plan, Ford Foundation Grants, Commonwealth Fellowships, etc. need to be exploited by the Department more systematically. (Paragraph 4.12)
26. Some of the posts of Plant Protection Specialists and Agronomists attached to the District Units may be filled in by Entomologists, Mycologists, Plant Pathologists and Agronomists from the Research Wing, to even out the differential promotional chances among the Research workers and to expose some of them to the field realities. This should be resorted to only once in a while. (Paragraph 5.1.5.)
27. The responsibility of the Additional Director (Research) will include (a) sifting of the research findings of the various research institutions in India and elsewhere and select those of relevance to us, (b) to prescribe the methodology for adaptive research and (c) to collate the findings of adaptive trials and pass them on to the research institutions as feed back. (Paragraph 5.1.6.)
28. Avoiding duplication of work among, and dovetailing the activities of, the research institutions may be attempted through a Committee consisting of the representatives of the department, the agricultural university and the ICAR. (Paragraph 5.1.7.)
29. Adaptive research needs to be undertaken extensively in all Districts through the Subject Matter Specialists at the District and Taluk levels. Besides the Plant Protection Expert, the Agronomist, the Soil Chemist and the water management Specialist in the District should participate in these adaptive research trials. The package given by the research institutions will be modified in the light of the adaptive trials in the various areas and passed on to the extension staff for propagation. (Paragraphs 5.2.1. to 5.2.5.)
30. The Subject Matter Specialists, besides conducting adaptive trials, will act as teachers to the extension staff, will help them in their extension work and will also redesign the course content of the Farmers' Training Programmes from time to time. (Paragraph 5.2.6.)
31. The preparation of annual farm plan for every ryot may be the focus of the multifaceted extension work, as the wisdom of all the branches of the department comes into play in that exercise. (Paragraph 5.3.3.)
32. Farmers' Training Programme aimed at opinion leaders in the rural areas must be conceived of as an integral part of the agricultural production strategy and not as an isolated academic exercise. (Paragraph 5.4.6.)
33. The course content of the Farmers' Training programme should be periodically redesigned to carry the message of the given campaign with which the District unit is charged. (Paragraph 5.4.6.)
34. There may be a Farmers' Training Centre for each District headed by a Deputy Director/Assistant Director working under the control of the District Joint Director. (Paragraph 5.4.8.)
35. The Agricultural Schools have come to be looked up on as training the Agricultural Demonstration Maistries of the Department. This attitude needs to be changed by following the practices mentioned in paragraph 5.4.11. (Paragraph 5.4.11.)

36. Vocational education oriented towards agriculture may be introduced in 2/3 high schools in each union. Deputy Agricultural Officers of the department with five years experience may be deputed to work as teachers in these schools (Paragraph 5.4.12).

37. The trading activities of the Department relating to seeds, pesticides, sprayers and hiring of machinery, etc., may be transferred to a company form of organisation. A State Agricultural Inputs Trading and Financing Company may be formed to undertake the trading operations and to promote the setting up of private retail unit (Paragraph 5.5.6).

38. In order to ensure perfect co-ordination between the company and the department, the Director of Agriculture may be the Chairman of the Company and the Managing Director of the Company be notified as an ex-officio Joint Director of the department (Paragraph 5.5.6).

39. Besides trading in seeds and pesticides, it may also be allowed to distribute fertilisers as it will enable the co-ordinated and timely supply of all material inputs by one agency (Paragraph 5.5.9).

40. The Department of Agriculture may however be allowed to keep small stocks of seeds, pesticides and fertilisers required for demonstration and publicity purposes (Paragraph 5.5.11).

41. The work of producing foundation seeds and certified seeds may be transferred from the Department along with the staff to a new company to be called Tamil Nadu State Seed Corporation. This corporation may also take over from the department 19 coconut nurseries, eight model orchards, the pulse farm, two vegetable seed centres and the six potato seed farms which are meant for giving the farmers better seedlings, saplings and seed materials (Paragraph 5.6.7).

42. This Corporation may also encourage the setting up of a number of private and co-operative seed centres licenced to produce certified seeds (Paragraph 5.6.7).

43. The seed certifying and seed quality control work may however remain with the department (Paragraph 5.6.8).

44. Seed certifying work must ultimately be entrusted to an independent and autonomous body, consisting of the representatives of the department, the private trade and the agricultural University (Paragraph 5.6.9).

45. In order to put the operation of seed production on a sound footing, the new corporation will have to (a) close down the farms which chronically lose and which have insuperable problems (b) make the size of the rest of the farms viable and create all the essential facilities like good fencing, threshing floor, drying yards, rat proof godowns, seed processing equipments, etc., (c) periodically settle the cropping pattern both from the point of view of maximising the output and from that of satisfying the demands for specific seeds, (d) secure qualified seed technologists to man the farms, (e) create tolerable conditions of living for the staff and families, so that they may remain on the job, (f) introduce production incentives and (g) create adequate storage facilities in each farm with temperature and humidity control to prolong the storage life of seeds without the loss of their vigour or viability and hold some buffer stock to meet extra demands arising after floods and drought Paragraphs 5.6.9. to 5.6.14)

46. The packing and sealing of the seeds should be such that till it reaches the ryots, it should be possible to verify whether the pack has been tampered with or not by a mere visual examination (Paragraph 5.6.14).

47. The new corporation should build up an image as a scrupulous supplier of high quality seeds (Paragraph 5.6. 16).

48. The extension staff who will be freed from trading activities and regulatory functions, may concentrate on estimating correctly the needs of inputs like credit, fertilisers, pesticides, seeds, water and power through farm plans prepared for each ryot irrespective of whether he as a member of a co-operative or not (Paragraph 5.7.3).

49. Input need forecasts may be made Union-wise and forwarded to the relevant supply agencies well in advance of the commencement of the fasli (Paragraph 5.7.3).

50. Apart from liaising with the supply agencies for effective procurement of the inputs the department may also ensure that the distribution follows the Union-wise forecasts and that at retail points distribution follows the quantity mentioned in the farm plan (Paragraphs 5.7.3. and 5.7.4).

51. At the district level one Assistant Director and one Deputy Agricultural Officer may assist the Joint Director in making the input need forecasts, and liaising with the various supply agencies. The required staff will be available as a result of re-organisation (Paragraph 5.7.5).

52. In the Directorate of Agriculture, the Additional Director (Programme) may have the assistance of a Deputy Director and 2/3 Assistant Directors to attend to the input needs forecasting and follow up work at the State level (Paragraph 5.7.6).

53. Till the soil of every holding is subjected to soil analysis, to determine the correct formula for fertiliser application, the fertility charts made by the Department for each Union may be used for arriving at the correct fertiliser demand. (Paragraph 5.7.8).

54. The Board of Revenue and the District Collectors must respect the district-wise and Union-wise demands for fertilisers worked out by the Agriculture Department at the time of allotting stocks (Paragraph 5.7.10).

55. In the event of the fertiliser distribution being entrusted to the new agricultural inputs trading corporation, the work relating to indenting for, and allocating pool fertilisers may be transferred from the Board of Revenue to the Director of Agriculture (Paragraph 5.7.11).

56. In the context of decreasing availability and increasing cost of chemical fertilisers, special attention may be paid by the extension staff to the development of composted manure and green manure and also to the propagation of cow-dung gas plants (Paragraph 5.7.12).

57. It may be desirable to charge a fee for analysis of soil, at least from those who own more than 2 acres of wet lands. (Paragraph 5.8.6).

58. The emphasis of the soil analysis work must shift from the desire of the department to study the fertility of the various tracts of the State to its being a major and fundamental service to the ryots. (Paragraph 5.8.5).

59. The head of the district laboratory may be a chemist in the rank of a Deputy Director and he may be administratively responsible to the Joint Director in the district, even though technically he will be guided by the Additional Director (Research) (Paragraph 5.8.7).

60. The State inputs trading and financing Company may offer composite spraying service to the ryots. It may also encourage private individuals and co-operatives in setting up spraying service organisations. (Paragraph 5.9.8).

61. The plant protection experts in the district and taluk teams will participate in the adaptive trials, train the extension staff in the plant protection practices, and help them in advising the ryots. They will also attend to such items of work as estimation of pesticide needs and plant pest surveillance to identify the need for epidemic spraying (Paragraphs 5.9.9. to 5.9.12).

62. Sections 6 and 7 of the Madras Agricultural Pests and Diseases Act, 1919 need to be amended to enable the department to spray all the fields in the village without the need to issue notices individually to the ryots (Paragraph 5.9.13).

63. Staff engaged in the Plant Protection work should be allowed to specialise in it by forming sub-cadres in the extension wing. Other things being equal preference should be given to the holders of M.Sc., and Ph.D. degrees in Entomology, Mycology,

Plant Pathology, while promoting the Plant Protection Officers from the level of Deputy Agricultural Officers to those of District Agricultural Officer are Deputy Directors. (Paragraph 5.9.14).

64. Pesticides may be sold to any body only against the prescription, issued by agricultural officers to ensure safety economy and the application of the appropriate pesticide in optimum doses. (Paragraph 5.9.15.)

65. The regular extension staff need not attend to the quality control work. Similarly the seed certifying staff should not form part of the seed production wing. (Paragraph 5.10.4).

66. A separate vertical hierarchy may be created for attending to (a) Quality control work relating to fertilisers, pesticides, and seeds. (b) Seed certification (c) Ag-mark grading (d) market surveys and (e) market intelligence work. (Paragraph 5.10.5.)

67. This hierarchy may have one Joint Director. 2 Deputy Directors and 5 District Agricultural Officers at Headquarters and one District Agricultural Officer and 4 Deputy Agricultural Officers for each district, besides the Secretaries of the Market Committees, and the staff engaged in Kapas grading, paddy and millet and cotton seed certifying. (Paragraph 5.10.5).

68. The staff and facilities available in the 13 soil testing laboratories, 5 pesticide testing laboratories, 2 fertiliser laboratories and 12 Ag-mark laboratories may be pooled and one composite agricultural laboratory may be set up in each district to undertake all these activities. (Paragraph 5.10.6 and 5.10.7.)

69. These district agricultural laboratories may be headed by chemists in the rank of a Deputy Director. (Paragraph 5.10.7).

70. Each district may have one mobile testing laboratory which can also handle soil, pesticides and fertilisers. (Paragraph 5.10.7).

71. The chemical and analytical laboratories of the industries department may be used when there is a surge of samples and in appeal cases. (Paragraph 5.10.8).

72. The laboratories need to be equipped with rapid testing facilities and a committee consisting of Additional Director (Research) Joint Director (incharge) (Chemical) and Government water and drug analysts may go into this and make recommendations. (Paragraph 5.10.9)

73. The present methods of sending samples for analysis to laboratories needs to be improved to ensure secrecy. (Paragraph 5.10.10.)

74. The Quality Control and Marketing wing may also attend to the work of evolving grading standards for a variety of agricultural produce like rice, millets, pulses, vegetables and fruits to facilitate internal and export trade. (Paragraph 5.10.11).

75. The power given to the Government under the recent amendment to the Tamil Nadu Agricultural Produce Markets Act to compel the ryot of given areas to sell notified crops only through the Regulated Markets needs to be exercised freely. (Paragraph 5.10.15).

76. Such a compulsion need to be accompanied by a sharp improvement in the quality of service made available at the Regulated Markets. The State Warehousing Corporation should function in close coordination with the regulated market yards. Publicity should be undertaken to attract a number of buyers to the market and all state purchases through Food Corporation of India, Civil Supplies Corporation, etc., should be made in these markets. (Paragraph 5.10.15.)

77. The quality control officers of the agriculture department should evolve quality specifications for Paddy millets, etc., and verify whether they are scrupulously followed in the procurement operations of the Civil Supplies organisations. (Paragraph 5.10.13.)

78. There is no need for both the Director of Agriculture and the State Board to administer the market committees. The entire work may be given either to the Director of Agriculture or to the State Board. (Paragraph 5.10.16).

79. The staff of the market committees may be provincialised and given conditions of service and retirement like other Government servants. (Paragraph 5.10.17.)

80. The work of hiring tractors, crawlers and drilling rigs to the ryots and administering workshops to maintain and repair these machines may be transferred from the agricultural engineering branch to the Tamil Nadu Agro Industries Corporation. Even after such a transfer, the ryots may be allowed to hire them at the concessional rates now given to them. (Paragraph 5.11.2).

81. The agricultural engineering branch may concentrate on soil conservation, water management and farm mechanisation advice. Each district may have one District Agricultural Engineer to attend to these items of work paying special attention to water management work. In the districts where soil conservation work load is also heavy, an Assistant Agricultural Engineer may also be given. These engineers will also be responsible to the District Joint Director administratively. (Paragraph 5.11.3).

82. The type of soil and water use management project executed at Siddamalli, need to be repeated extensively all over the state utilising the funds of the State Land Development Bank. (Paragraph 5.11.5.)

83. The agricultural engineering branch should also develop capabilities for advising the Public Works Department on the quantum, timing and duration of water supply required for various tracts and crops. (Paragraph 5.11.5).

84. The taluk Assistant Director should be able to pass orders in respect of all the staff in the taluk on such matters as drawal of salary, Travelling Allowances, Dearness Allowance, Sanction of all kinds of leave, increments, etc. (Paragraph 6.2).

85. Similarly the personnel problems relating to all the staff in the District should be solved at the level of the District Joint Director.

86. District Joint Directors may be treated as Regional Officers and the taluk Assistant Directors as District Officer for the purposes of financial delegation as per the scheme envisaged by the commission in its report on financial administration (Paragraph 6.7).

87. Pending this powers may be enhanced as suggested in annexure V (Paragraph 6.7.)

88. The present methods of reviewing concentrate on the activities and not on their impact. There is need to evaluate the schemes in the light of their impact on agricultural production and to establish their relevance before repeating them. (Paragraph 7.1 to 7.3).

89. The evaluation has to be both internal and external. The internal evaluation work will be systematically attended to at the State, district and taluk levels by the Additional Director (Programme), Deputy Director (P.E.M.) and Deputy Agricultural Officer (P.E.M.) respectively. (Paragraph 7.4).

90. External evaluation of select schemes has to come from such agencies as Planning Commission; Economic Analysis and Research Cell and increasingly from outside consultants, social research and University organisations. Government may sponsor studies by social scientists and agricultural economists. (Paragraph 7.5).

91. Internal co-ordination within the department among the various branches like Research, extension, agricultural engineering, training, soil analysis, etc., may be achieved at the district level and below by adopting the reorganisation suggested by the Commission. (Paragraph 8.1).

**REPORT ON THE
ADMINISTRATION OF THE
DEPARTMENT OF AGRICULTURE**

A N N E X U R E S

92. Co-ordination of the work of the Agriculture Department with those of allied departments and organisations may be achieved both at the level of head of departments and at the level of the Secretariat Departments through the Commissioner of Agricultural Production and Panchayat Development (Paragraph 8.4).

93. The said Commissioner may be notified as a Principal Secretary in the Secretariat Departments of Agriculture, Forests, Food, Co-operation. Rural Development and Local Administration and Public Works Department (Paragraph 8.5).

94. He should have a deputy to look after the day-to-day work of the Panchayat Development Department. In all the relevant Secretariat and executive departments, the second or third senior most officer may be nominated specifically to liaise with and assist the Commissioner in any assignment he may undertake (Paragraph 8.6).

95. At the district level the co-ordination function may continue to be exercised by the District Collector (Paragraphs 8.8. and 8.9).

96. To ensure co-ordination between the department and the companies relevant to agricultural production such as Agro-Industries Corporation, Tamil Nadu Seeds Production Corporation, Tamil Nadu Agricultural Inputs Trading and Financing Company, etc., the Director of Agriculture or Secretary, Agriculture, may be made the Chairman of all these companies. The posts of Managing Directors can perhaps be filled in by officers with an ex-officio Joint Director status in the Department (Paragraph 8.13).

97. Agricultural graduates may be encouraged to set up private farm consultancy practice and to set up retail points for the sale of agricultural inputs and service like spraying, soil analysis, etc. (Paragraphs 9.1 to 9.7).

98. Legislation may be made to enable the registration and licencing of private practitioner of agricultural consultancy works (Paragraph 9.8).

99. An attempt should be made to constitute an agricultural policy cell consisting of an Agricultural Economist, Agronomist, Statistician and a Social Scientist, to advise the Government on the formulation of agricultural policy (Paragraph 10.13).

100. As it may be difficult to fit in the renowned experts in the Government hierarchies, it may be desirable to resort to consultancy arrangements. In the long run the Government may sponsor the setting up of an Agricultural Economic Research Institute, for undertaking studies relevant to the formulation of Government policies relating to agricultures (Paragraph 10.13).

(T. A. VARGHESE)
Chairman.

12-6-74.

(K. S. SIVASUBRAHMANYAN)
Member.

(V. KARTHIKEYAN)
Member.

(A. R. SUBBIAH MUDALIAR)
Member.

(V. KRISHNASWAMY)
Member-Secretary.

ANNEXURE No. I.

DISTRIBUTION OF THE EXISTING STAFF IN THE DIRECTORATE OF AGRICULTURE

(i) *Extension Branch.*

<i>Item of work.</i>	<i>Addl. Dir.</i>	<i>JD.</i>	<i>DD.</i>	<i>DAO.</i>	<i>DyAO.</i>	<i>CDI.</i>	<i>AA.</i>	<i>DM.</i>	<i>PPM.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Headquarters	..	+3	..	..	..	..	..	..	..
Regular territorial staff.	4	43	374	..	377	810	..
IADP	1	3	2	108	..	..	..	36
IAAP	1	1	10	85	..	252	..	..
IGNDP	1	1	4	7	..	3	..	..
HYVP	1	..	314	..	107	849	7
Pulses	1	..	1	46	..	..	84	..
Compost Devpt.	6	..	381	..	..	..
Seed Pro-grammes.	..	1	1	9	107	..	28	135	..
Oilseeds Devpt.	..	1	2	21	115	..	212	100	11
ICDP+Cotton Development.	1	..	4	14	86	..	356	122	8
Tobacco Devpt.	1	1	14	..	21	9	..
Sugarcane Devpt.	1	4	67	..	73	236	..
Coconut Devpt.	2	3	59	..	73	105	..
Horticulture Devpt.	1	13	107	..	93	188	..
City vegetable project.	1	11	..	12	32	..
Vegetable marketing.	1	3	..	..	6	..
Multiple cropping project.	..	1	3	9	16	..	..	..	..
Integrated Dryland Devpt.	2	6	6	..	..	12	2
Fert. Control Order.	1	3	8	..	..	..	..
Plant Protection.	1	5	127	..	..	153	..
Agricultural Schools.	1	13	..	13	..	..
Farmers' Training Centre (National Demonstrations).	7	22	13	..	3	..	..
KKARI, Kudumiamalai.	..	1	6	..	10	..	2	..	..
Marketing	1	13	35	..	58	..	..
Information	2	4	..	..	..	..
Planning Cell	1	1	2	..	..	..	..

ANNEXURE No I.—*cont.*DISTRIBUTION OF THE EXISTING STAFF IN THE DIRECTORATE OF AGRICULTURE—*cont.*(ii) *Extension Branch—cont.*

<i>Item of wor.</i>	<i>Addl. D</i>	<i>JD.</i>	<i>DD.</i>	<i>DAO.</i>	<i>DyAO.</i>	<i>CDI.</i>	<i>AA.</i>	<i>DM.</i>	<i>PPM.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Miscellaneous	..	..	..	..	15	..	12	..	..
Total ..	1	11*	44	195	1,752	381	1,695	2,841	64

+JD (Inspection), JD (Extension), and JD (Commercial Crops).

*Excludes JD (P&D) and JD (Administration) PPM means plant protection mechanic.

(ii) *Research Wing.*

	<i>AD.</i>	<i>JD.</i>	<i>DD.</i>	<i>DAO.</i>	<i>DyAO.</i>	<i>CDI.</i>	<i>AA.</i>	<i>DM.</i>	<i>PPM.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1	1	17	99	336	..	345	716	..

(iii) *Engineering Wing.*

	<i>CE.</i>	<i>SE.</i>	<i>DE.</i>	<i>AAE.</i>	<i>JE.</i>	<i>Super- visor.</i>	<i>Others.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	1	1	22	69	191	352	3,392

One possible method of re-deploying the staff in the Extension Branch—

<i>Item of work.</i>	<i>Addl. Dir.</i>	<i>J.D.</i>	<i>DD.</i>	<i>AD.</i>	<i>Dy. AO.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1. Directorate—					
* (a) Planning	1	..	1	..	1
(b) Monitoring & Evaluation.	1	4	4
(c) Inputs Cell	1	3	3
(d) Quality Control	1	1	3	2
(e) Marketing	1	2	2
(f) Seed certification	1	2	24
(g) Kapas Grading	5	5
2. District formations—					
Dt. Chiefs 10 large Districts.	..	10	..	..	..
Dt. Chiefs 5 small Districts.	5	..	..
S.M. Specialist (PP) (15 Districts).	10	5	15
S.M. Specialist (Agronomy).	10	5	15
Planning, Evaluation & Monitoring.	10	5	15
Information Officers.	15	15
Marketing and Quality Control	15	60
Former Training Centers.					
Chiefs	10	5	..
Staff	20	40
Agricultural Schools	13
Input Cells	15	15
3. Taluk formations—					
Taluk ADs	116	..
S.M. Specialist (Plant Protection).	116
S.M. Specialist (Agronomy).	116
Planning, Evaluation and Monitoring.	116
Field Dy AOS @ 6 per taluk.	696@
4. Staff in 374 PUs	374
5. Total distributed	1	11	51	220	1,647
6. Total staff now in Extension Branch.	1	11	44	195	1,752

<i>Item of work.</i>	<i>Addl. Div.</i>	<i>JD.</i>	<i>DD.</i>	<i>AD.</i>	<i>Dy. AO.</i>
(1)	(2)	(3)	(4)	(5)	(6)
\$7. Out of 6, staff to be sent away for seed production work.	..	1	..	11	134
8. Balance available for redistribution (i.e. 6-7)	1	10	44	184	1,618
9. Additional Staff required on account of redistribution (i.e. 5-8).	..	1	7	36	29

NOTE.—*Excludes rest of the staff of Planning Cell coming from Research and Agro-Engineering Wings, etc.

@Based on a uniform distribution of 6 Dy. AOs. per taluk. It may also be distributed otherwise, i.e. more in some taluks and less in others.

\$For details see next page.

Staff to be sent to seed production work—

	<i>JD.</i>	<i>DD.</i>	<i>DAO.</i>	<i>Dy. AO.</i>	<i>AA.</i>	<i>DM.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. State Seed Farms, Seed Centres & Seed Certification staff.	1	1	9	107	28	135
2. Seed Certifying Staff ..	..	1	2	24	..	6
3. Balance Seed Production Staff.	1	0	7	83	28	129
4. Staff for production of coconut seedlings.	..	..	..	20	20	39
5. Staff for cotton seed multiplication.	..	..	3	16	32	54
6. Staff for Vegetables seeds production.	..	..	..	2	3	..
7. Staff for Orchards .. ..	..	..	..	9	8	..
8. Staff for potato seeds ..	..	..	1	4	7	15
9. Total staff to go, i.e. (3+4+5+6+7+8).	1	..	11	134	98	237

ANNEXURE No. III.

ANALYSIS OF THE TENURES OF JOINT DIRECTORS OF AGRICULTURE (RETIRED) AS ON
1ST MARCH 1974.

Serial number and Name.						Date of appointment as Joint Director.	Date of Retirement.	Total service as Joint Director. Y. M. D.		
1	C. R. Seshadri	..	..	..	..	20- 5-1956	10-11-1961	5	5	22
	Re-employed	..	..	..	..	11-11-1961	10-11-1962	1	..	..
2	M. Oliudulla Shah	..	..	..	..	19- 8-1958	18- 8-1964	6	..	..
3	S.M. Sulaiman*	..	..	..	..	2- 4-1959	30- 6-1970	11	2	29
	As Additional Director	..	..	..	..	1- 7-1970	14- 6-1972	1	11	14
4	T.S. Francis*	..	..	..	..	19- 6-1960	30- 6-1970	10	..	12
	As Additional Director	..	..	..	..	1-7 -1970	14- 4-1972	1	9	14
5	P. P. Syed Mohammed	..	..	..	..	29- 7-1960	30- 3-1961	0	8	2
6	T. K. Thangavelu	..	..	..	..	30- 3-1961 (a.n.)	22-12-1963	1	8	22
7	M. Mukundan*	..	..	..	..	7- 5-1963	5- 5-1969	5	11	29
8	K. Santhanam*	..	..	..	..	23-12-1963	19- 6-1965 (expired)	1	5	28
9.	E.G. Sivaswamy*	..	..	..	..	1- 5-1964	16-11-1964	0	6	16
	Break ..	..	..	..	..	17-11-1964	30- 4-1965			
						1- 5-1965	2- 9-1970	5	3	2
10	K. Fazlullah Khan	..	..	..	..	19- 6-1965	4-10-1971	6	3	16
	As Additional Director	..	..	..	..	5-10-1971	31- 5-1972	0	7	27
11	B. Srinivasa Rao*	..	..	..	..	3- 7-1968	14- 4 1973	4	9	12
	(Resigned for permanent absorption in the State Farm Corporation of India).									
12	K. A. Shaikat Ali (as Director of Agriculture, Pondicherry)	..	..	..	..	2- 5-1969	23- 6-1973	4	1	22
13	A. Radhakrishna Reddy	..	..	..	..	2- 5-1969	27- 7-1972	3	2	26
14	T.P. Shanmuganainar	..	..	..	..	25- 3-1970	23- 7-1972	2	3	30
15	V. Mahimai doss	..	..	..	..	29- 3-1971	1- 1-1973	1	9	4
16	T.D. Muthusamy	..	..	..	..	3- 3-1971	31- 7-1971	0	4	29
17	V. Venkatasubramanian	..	..	..	..	5- 3-1971	28- 2-1974	1	11	24
18	D. A. Syed Mohamed	..	..	..	..	14-10-1971	2- 2-1972	0- 3	20	
19	R. Visvanathan	..	..	..	..	14-10-1971	17-11-1972	1	1	4
	Re-employed to work in P.W. D.	..	..	..	..	18-11-1972	17-11-1973	1	..	..
20	M. N. Meenakshi Sundaram	..	..	..	..	14-10-1971	18-11-1972	1	1	5
21	W. S. Ramarathinam	..	..	..	..	15- 5-1972	24-12-1973	1	7	10

*Direct Recruits.

ANALYSIS OF THE TENURES OF JOINT DIRECTORS IN SERVICE AS ON 1ST MARCH 1974.

Serial number and name.					Date of appointment as Joint Director.	Date of retirement.	Total service as Joint Director.		
							Y	M	D
1	B. Santhanakrishnan*	..	..	..	7- 5-1963	31- 8-1975	12	3	25
2	J.H. S. Ponnayya*	..	..	..	2- 1-1967	31- 5-1980	13	4	30
3	A. Venkataraman*	..	..	..	27- 4-1968	30-11-1984	16	7	4
4	A.R. Bhaskaran*	..	..	..	23-10-1969	31- 5-1985	15	7	9
5	C. R. Thiruvengadam	..	..	..	25- 3-1970	30- 9-1977	7	6	6
6	T. Sivasubramaniam	..	..	..	3- 3-1971	31- 8-1974	3	5	29
7	P. K. Sivasubramaniam	..	..	..	9- 4-1971	30- 9-1974	23	5	22
8	K. Hanumantha Rao	..	..	..	13-10-1971	28- 2-1977	5	4	16
9	N. Pinagapani*	..	..	..	24- 3-1972	31- 2-1983	11	..	8
10	T. M. Vittal*	..	..	..	18- 5-1972	30- 6-1978	6	1	13
11	C. D. Chockkalingam	..	..	..	11- 5-1972	30- 6-1976	4	1	20
12	T. K. Ramachandran	..	..	..	22- 6-1972	1- 5-1974	1	10	10
13	J. Job Servai	..	..	..	22- 9-1972	31-10-1978	6	1	10
14	V. Nanjappamanigar	..	..	..	22- 9-1972	31- 8-1977	4	1	10
15	S. Pandiperumal	..	..	..	18- 9-1972	31- 7-1979	6	10	14
16	B. Venkatasamy	..	..	..	2- 5-1973	31- 3-1979	5	10	30
17	K. Ragavan	..	..	..	2- 5-1973	31- 8-1978	5	3	30
18	K. Narasimhalu	..	..	..	31-12-1973 (a.n.)	30- 4-1976	2	4	..

Remarks :

1. The officer (item 1) is now working as Additional Director, I C D P since 5-10-1971.
2. The officer mentioned in item 2 is now working as Joint Director in the Rural Development and Local Administration Directorate since 4- 8-1970.
3. The officer mentioned in item 3 is now working as Additional Director since 14-2-1972. He is at present Director-in-Charge also.
4. The officer mentioned in item 5 is on deputation to Mundiampakkam Sugar Factory, South Arcot.

* Direct recruits.

**FORECAST OF THE LIKELY TENURES OF THE JOINT DIRECTORS
DURING THE NEXT FEW YEARS.**

<i>Serial number and name.</i>				<i>Date of birth.</i>	<i>Date of retirement.</i>	<i>Date on which likely to be appointed as Joint Director.</i>	<i>Total Service as Joint Director. Y. M.</i>
(1)				(2)	(3)	(4)	(5)
1	R. Balasubramaniam	..	..	12- 4-1924	30-4 -1979	1- 5-1974	5 0
2	V. Krishnamoorthy	..	..	30- 6-1927	30- 6-1982	1- 9-1974	7 7
3	R. Ranganathan	..	..	4- 9-1921	30- 9-1976	1-10-1974	2 0
4	K. R. Narayanasamy	..	..	1- 2-1920	1- 2-1975	..	..
5	U. V. Thiagaram	..	..	12- 3- 1919	31- 3-1974	..	..
6	P. A. Krishnamoorthy	..	..	4-12-1923	31-12-1978	1- 9-1975	3 4
7	V. Gajapathy	..	..	17- 3-1925	31- 3-1980	1- 5-1976	3 11
8	N. Ramasamy	..	..	6- 9-1922	30- 9-1977	1- 7-1976	1 3
9	M. Ramachandran	..	..	6- 7-1926	31- 7-1981	1-10-1976	4 10
10	Ramachandra Marar	..	..	16- 6-1926	30- 6 1981	1- 3-1977	4 4
11	M.R. Arumugavelu	..	..	13- 8-1926	31- 8-1981	1- 9-1977	4 0
12	R. S. Earnest	..	..	1-12-1924	1-12-1979	1-10-1977	2 2
13	P. Syed Sheriff	..	..	16- 7-1922	31- 7-1977	..	..
14	C. Sankaranarayanan	..	..	23- 4-1926	30- 4-1981	1-10-1977	3 7
15	S. Manikkaraj Lysander	..	..	6-10-1922	31-10-1977	..	..
16	V. Adikesavan	..	..	13- 4-1926	30- 4-1981	1- 7-1978	2 10
17	M.M. Sankaran	..	..	12- 6-1926	30- 6-1981	1- 9-1978	2 10
18	G. Rajagopalan	..	..	31- 5-1927	31- 5-1982	1-11-1978	3 7
19	V. Muthiah	..	..	1- 7-1924	1- 7-1979	1- 1-1979	0 6 0
20	K. Radhakrishna Menon	..	..	10- 3-1926	31- 3-1981	1- 4-1979	2
21	K. Jegannathan	..	..	10- 3-1926	31- 3-1981	1- 5-1979	1 11
22	K. Muthusamy	..	..	15- 8-1927	31- 8-1982	1- 7-1979	3 2
23	S. Vinayagam	..	..	19- 2-1928	28- 2-1983	1- 8-1979	3 7
24	C. Narayanan	..	..	23-12-1929	31-12-1984	1-12-1979	5 1
25	K. Subramaniam	..	..	11-11-1923	30-11-1978	..	..
26	K. Bharathan	..	..	24-10-1927	31-10-1982	1- 4-1980	2 7
27	P. S. Purushothaman	..	..	15-10-1924	31-10-1979	..	.
28	S. Sivasankaran	..	..	24- 4-1925	30- 4-1980	..	..
29	C. Ramanujam	..	..	21-11-1925	30-11-1980	1- 6-1980	

FORECAST OF THE LIKELY TENURES OF THE JOINT DIRECTORS
DURING THE NEXT FEY YEARS—*cont.*

<i>Serial number and name.</i>				<i>Date of birth.</i>	<i>Date of retirement.</i>	<i>Date on which likely to be appointed as Joint Director.</i>	<i>Total service as joint Director. Y.M.</i>
(1)				(2)	(3)	(4)	(5)
30	R. Ramadoss	..	..	2— 5—1926	31— 5—1981	1— 12—1980	0 6
31	T. V. Navaneethakrishnan	..	..	8— 3—1923	31— 3—1978	..	..
32	G. Ramanathan	..	..	1—11—1924	1—11—1979	..	..
33	N. Thiagarajan	..	..	22—11—1923	30—11—1978	..	..
34	C. Shanmugam	..	..	13— 5—1926	31—5 —1981	1—4 —1981	0 2
35	S. Venkatasamy	..	..	20— 8—1926	31— 8—1981	1— 5—1981	0 4
36	K. Sivaramakrishnan	..	..	9— 5—1927	31— 5—1982	1— 5—1981	1 1
37	K. Perumal	..	..	5— 7—1924	31— 7—1979	..	..
38	C. Krishnamoorthy	..	..	7—10—1925	31—10—1980	..	..
39	R. Jayaraja	..	..	26— 1—1927	31— 1—1982	1— 6—1981	0 8
40	E. N. Varadharajan	..	..	7— 5—1926	31— 5—1981	..	..
41	B. Solaiapaan	..	..	14— 3—1928	31— 3—1983	1— 6—1981	1 10
42	S. Subramaniam	..	..	16— 9—1924	30— 9—1979	..	..
43	B. Vasudevasingh	..	..	15—12—1926	31—12—1981	1— 7—1981	..
44	B. Venkataramani	..	..	24— 3—1924	31— 3—1979	..	..
45	V. Veeraragavan	..	..	28—11—1929	30—11—1984	1— 9—1981	3 3
46	M. Sankariah	..	..	8— 6—1928	30— 6—1983	1— 9—1981	1 10
47	J. William Paul	..	..	7— 9—1925	30— 9—1980	..	..
48	I. Gnanavaram	..	..	25— 1—1925	31— 1—1980	..	..
49	A. John Knight	..	..	24— 5—1927	31— 5—1982	1— 1—1982	0 5
50	J. Balraj Joseph	..	..	6— 9—1923	30— 9—1978	..	..
51	J. F. George	..	..	28—11—1925	30—11—1980	..	..
52	P. F. George	..	..	11— 8—1926	31— 8—1981	..	..
53	C. Manimanthri	..	..	10— 8—1926	31— 8—1981	..	..
54	G. Mutharasan	..	..	9— 7—1925	31— 7—1980	..	..

ANNEXURE IV.

INFORMATION ON SEED AND SEEDLINGS PRODUCTION IN TAMIL NADU STATE.

(a) *Details of State Seed Farms.*

Name of the Seed Farm.									Total area.	Cultivated area.
1	Navalock	..	..	...	..	..	..	..	76.39	63.39
2	Athiyandal	..	...	..	..	..	...	..	54.83	46.25
3	Valavachanur	..	...	..	..	..	..	..	191.05	83.56
4	Kancheepuram	..	..	...	...	..	..	..	45.01	43.08
5	Sirukaveripakkam		..	..	..	..	..	..	65.47	58.10
6	Pichivakkam		..	..	..	..	..	..	100.00	90.00
7	Kolandalur	..	..	..	..	..	..	..	50.72	44.50
8	Pullur	..	..	..	..	..	..	..	55.20	48.33
9	Uthukottai	..	..	..	..	..	..	..	37.33	35.41
10	Vadakkanandal		..	..	..	..	..	..	47.06	45.82
11	Vanur	..	..	..	..	..	..	..	60.53	53.71
12	Irungur	..	..	..	..	..	..	..	205.44	179.50
13	Kakuppam	..	..	..	..	..	..	..	70.84	60.24
14	Iruvelpet	..	..	..	..	..	..	..	52.09	48.76
15	Pudurpalayam		..	..	..	..	..	..	75.97	60.60
16	Naikuppaipudur		...	...	...	..	..	..	49.26	34.10
17	Vellapakkam		..	..	...	...	..	..	89.85	86.00
18	Vandarayanpet		..	..	..	..	..	..	50.99	48.34
19	Miralur	..	..	..	..	..	..	..	46.98	40.00
20	Thirukadiyur	..	..	..	..	..	..	..	45.64	44.60
21	Nagamangalam		..	..	..	..	..	..	63.91	61.79
22	Sakkottai	..	..	..	..	..	..	..	86.17	71.00
23	Kanchikudikadu		..	..	..	..	..	..	53.02	47.56
24	Orathoor	..	..	..	..	..	..	..	49.93	48.57
25	Nedumbalam	..	..	..	..	..	..	..	63.19	58.74
26	Keranthi	..	..	..	..	..	..	..	54.38	49.10
27	Deebambalapattinam		..	..	..	...	..	..	92.72	85.20
28	Sikkil	..	..	..	..	..	..	...	56.50	53.11
29	Moongilkudi		..	..	..	..	..	..	47.63	44.58
30	Nattumangalam		..	..	..	..	...	..	131.62	126.03

(a) *Details of State Seed Farms—cont.*

<i>Name of the Seed Farm.</i>									<i>Total area.</i>	<i>Cultivated area.</i>
31 Keelakudalur .. .. .	..	..	..	..	..	..	..	..	47.77	41.25
32 Vaigai Dam I .. .. .	..	..	..	..	..	..	..	..	53.70	35.00
33 Vaigai Dam II .. .. .	..	..	..	..	..	..	..	..	114.85	114.85
34 Devadanam .. .. .	..	..	..	..	..	..	..	..	52.07	51.11
35 Paramakudi .. .. .	..	..	..	..	..	..	..	..	25.16	19.68
36 Vinayagapuram .. .. .	..	..	..	..	..	..	..	..	38.76	38.14
37 Rifle Range .. .. .	..	..	..	..	..	..	..	..	50.87	36.00
38 Vilpatti .. .. .	..	..	..	..	..	..	..	..	50.98	46.00
39 Devakottai .. .. .	..	..	..	..	..	..	..	..	252.41	195.43
40 Manimuthar .. .. .	..	..	..	..	..	..	..	..	51.43	51.43
41 Melagaram .. .. .	..	..	..	..	..	..	..	..	40.52	39.94
42 Karaiyiruppu .. .. .	..	..	..	..	..	..	..	..	83.59	80.16
43 Killikulam .. .. .	..	..	..	..	..	..	..	..	258.96	170.00
44 Thirupathisaram .. .. .	..	..	..	..	..	..	..	..	69.25	58.61
45 Kannampalayam .. .. .	..	..	..	..	..	..	..	..	50.66	42.50
46 Pongalur .. .. .	..	..	..	..	..	..	..	..	38.42	34.72
47 Pappankulam .. .. .	..	..	..	..	..	..	..	..	46.36	41.60
48 Bhavanisagar .. .. .	..	..	..	..	..	..	..	..	50.82	48.50
49 Bhavani .. .. .	..	..	..	..	..	..	..	..	86.86	82.50
50 Sathyamangalam .. .. .	..	..	..	..	..	..	..	..	42.55	38.69
51 Mettur Dam .. .. .	..	..	..	..	..	..	..	..	57.90	46.60
52 Danishpet .. .. .	..	..	..	..	..	..	..	..	110.90	95.26
53 Mulluvadi .. .. .	..	..	..	..	..	..	..	..	268.57	54.00
54 Papparapatti .. .. .	..	..	..	..	..	..	..	..	55.20	51.20
55 Anna Pannai .. .. .	..	..	..	..	..	..	..	..	1,017.45	806.45
Total ..									<u>5,187.73</u>	<u>4,179.59</u>

(b) SEEDS PRODUCED IN STATE SEED FARMS (IN TONNES)

Year.	Paddy.	Millets.	Oilseeds.	Hybrid Millets.	Pulses.	Green Manure.	Cotton.	Vegetables.	Other Crops.	Expenditure and Receipts in Rs.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
70-71	2982.448	190.621	234.912	77.398	31.134	5.711	6.847	22.458	64.317	36,163,84.74 4753425.79 R.
71-72	3410.334	116.138	111.524	94.913	25.888	45.532	12.664	42.441	81.901	38,39,879.39 4860060.11 R.
72-73	3720.529	64.576	77.019	121.574	33.767	214.283	8.748	46.031	126.111	49,15,419.27 5534478.17 R.

Note: R.—Receipts.

(c) *Seed farms arranged on behalf of the department and quantity of seeds procured in seed centres for paddy seeds.—*

<i>Year.</i>					<i>Area of seed farms arranged.</i>	<i>Quantity of paddy seeds procured.</i>	<i>Value of seeds</i>
					<i>(in acres)</i>	<i>(in Metric tonnes)</i>	<i>Rs.</i>
(1)					(2)	(3)	(4)
1971-72	..	..	..	..	18,809.17	7,893	63,14,400
1972-73	..	..	..	..	23,575.00	7,686	61,48,800
1973-74	11,212.83	4,195	33,56,000

(d) PROGRESS UNDER OIL SEEDS DEVELOPMENT PROGRAMME

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A. Seed farm—

	1969-70. (1)	1970-71. (2)	1971-72. (3)	1972-73. (4)	1973-74. (5)
1. Groundnut Seed Farm (in lakh acres)	0.148	0.102	0.176	0.178	0.332
2. Gingelly Seeds Farm (in lakh acres)	0.003	0.005	0.008	0.012	0.009
3. Castor Seed Farm (in lakh acres) 0.. ..	0.002	0.003	0.004	0.006	0.003

B. Seed procurement.—

1. Groundnut seeds procured (in bags of 40 kgs.) ..	30,014	43,025	46,451	32,227	46,275
2. Gingelly seed procured in bags of 75 kgs. ...	23	120	109	347	374
3. Castor seeds procured in bags of 45 kgs. ..	21	127	156	201	374
4. Sunflower seeds procured in bags of 50 kgs. ..	..	..	..	..	15,324

C; Expenditure.—

1. Value of Groundnut sees procured	30,01,400	43,02,500	46,37,100	32,22,700	46,27,500
2. Value of Gingelly seeds procured	5,175	27,000	24,525	78,075	78,075
3. Value of castor seeds procured	3,150	19,050	23,400	30,150	46,100
4. Value of sunflower seeds procured .. ..	..	..	..	..	38,310
Total value of seeds procured	30,09,725	43,48,550	46,85,025	33,30,925	47,99,985

*Note :—*Value worked at—

1. Groundnut at Rs. 100 per bag of 40 kgs.
2. Gingelly at Rs. 225 per bag of 75 kg.
3. Castor at Rs. 150 per bag of 45 kg.
4. Sunflower at Rs. 250 per bag,

(e) LIST OF COCONUT NURSERIES IN THE STATE.

<i>Serial number.</i>	<i>Name of the Nursery.</i>	<i>District.</i>	<i>Area.</i>
(1)	(2)	(3)	(4)
1	Moovalur	Thanjavur	3.00 Acres.
2	Pattukottai	Do.	3.86 „
3	Muthupet	Do.	2.17 „
4	Paniyur	Madurai	4.54 „
5	Sholavandan	Do.	2.30 „
6	Singampuneri	Ramanathapuram ..	2.79 „
7	Shencottah	Tirunelveli	1.95 „
8	Vadagarai	Do.	6.35 „
9	Puthalam	Kanyakumari	4.86 „
10	Vehipuli	Ramanathapuram ..	3.26 „
11	Devipattinam	Do.	6.50 „
12	Thondi	Do.	5.00 „
13	Srirangam	Tiruchirappalli ..	3.00 „
14	Salem	Salem	2.50 „
15	Pollachi	Coimbatore	4.00 „
16	Nanjundapuram	Do.	2.50 „
17	Navlock	North Arcot (Started on 10th May 1972).	5.00 „
18	Pichivakkam	Chingleput	5.00 „
19	Kakuppam	South Arcot	8.00 „
20	B.G. Pudur	Dharmapuri	4.02 „
21	Madhavaram	Chingleput	5.44 „

During 1973-74, Two more nurseries were started at Nangavatti (Salem District) and Navlock (North Arcot District).

(f) PROGRESS MADE UNDER COCONUT NURSERIES SCHEME.

<i>Serial number.</i>	<i>Year.</i>	<i>Number of seedlings produced.</i>	<i>Expenditure.</i>	<i>Receipts.</i>
1.	1969-70	6,78,986	8,02,540	9,39,485
2.	1970-71	6,80,524	9,92,656	9,71,060
3.	1971-1972	8,17,738	11,14,285	12,42,545

(g) PROGRESS UNDER COTTON SEED DEVELOPMENT SCHEME.

Serial num- ber. (1)	Items. (2)	Year.		
		1971-72.	1972-73.	1973-74.
1	Seed Farms run during the year (in acres)	36,980 Acs.	37,458 Acs.	38,893 Acs.
2	Quantity of seeds procured (in tonnes)	2,042.225	2,124.632	2,336.437
3	Value of seeds procured (in rupees)	18,62,996	19,24,988	21,80,216
4	Quantity of seeds sold during the year (in tonnes).	2,037.794	1,737.364	

Out of 2336,437 M.T. of cotton seeds procured during the year 1973-74, a quantity of 1,725,517 of seeds were supplied to seed farms and Agricultural depots. These seeds are being sold out and the value could be assessed at the end of 1974-75. The Balance stock of 610,920 M.T. of seeds (MCU 5) will be distributed in 1974-75.

5	Value realised by the sale of seeds during the year (in rupees).	19,91,018	15,22,170.54
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(A quantity of 4.4 M.T. of seeds were left unsold during 1971-72 and subsequently disposed off in 1972-73 and 1973-74). (A total quantity of 387.2 M.T. of seeds were left unsold during the year. Hence, the entire value could not be realised during the year. Out of this a quantity of 385.7 M.T. of seeds were sold out in 1973-74 and the value of Rs. 5,35,075 was realised. the balance quantity of 4 M.T. are held in Agricultural depots and will be disposed off in the coming seasons.

(h) LIST OF MODEL ORCHARD-cum-NURSERIES.

<i>Name of district.</i>	<i>Name of Model Orchard-cum-Nursery.</i>				<i>Total area (in acres).</i>
(1)	(2)				(3)
1 Chingleput	Athur				29.86
2 Thanjavur	Marungulam				26.44
3 Madurai	Periakulam				23.28
4 Madurai	Kodaikanal				12.76
5 Dharmapuri	Thimmapuram				23.77
6 Ramanathapuram	Poovani				23.65
7 Tirunelveli	Courtallam				26.00
8 North Arcot	Kudapattu				24.91

(i) Number of Plants produced in Government Model Orchard-cum-Nurseries.

Year	Mango	Citrus varieties	Other fruit plants	Grapes	Apple	Pear	Peach	Plum	Flowers	Croton and ornamental varieties	Miscellaneous
1970-71	14,243	11,836	9,940	18,300	1,005	845	166	340	282	159	35,964
1971-72	28,209	11,086	14,491	46,282	800	2,515	262	366	310	1,716	18,306
1972-73	37,318	27,293	13,477	37,175	743	3,234	98	461	1,740	16,882	60,856

DELEGATION OF POWERS.

ANNEXURE No. V.

Item	Existing powers of the D. A.	Proposed powers to			
		D.A.	Dt. Jt. Dvr.	Taluk Asst. Dvr.	
(1)	(2)	(3)	(4)	(5)	RS.
		RS.	RS.		RS.
1. STORES.					
Purchase of stores, dead stock, etc. for experimental cultivation demonstration, etc.	(a) For articles made in India—Rs. 2,000 .. (b) For articles not made in India—Rs. 1,000.	10,00,000	5,000	2,000	
(ii) Purchase of machinery apparatus and instruments and equipments (including spare parts and accessories) and repairs therefor and purchase of chemicals and other materials.	Rs. 5,000 at a time	1,00,000 at a time.	50,000 at a time.	10,000 at a time	
(iii) Purchase of oil and lubricants	(a) Under rate contract Rs. 20,000 at a time. (b) Outside rate contract—Nil.	Full powers	Full powers	Full powers.	
2. WORKS.					
(i) Works executed by Heads of Departments not debitable to Public works Grant.	(a) Rs. 10,000 for construction of seed stores (b) Rs. 20,000 for original works and repairs.	1,00,000	50,000	4,000	
(ii) Works debited to Public Works Grant ..	(a) Rs. 10,000 for construction of seed stores. (b) Rs. 20,000 for original works and repairs.	1,00,000	50,000	4,000	
(iii) Residential Buildings	Rs. 500	5,000	2,000	..	
(iv) Additions, improvements and alterations to existing electrical installations.	(a) Rs. 1,000 a year for each building in respect of non-residential building. (b) No powers for residential building.	10,000	2,000	..	
(v) Fencing	No powers	Full powers	Full powers	..	

(vi) Reclamation of lands Rs. 300 per acre Must be fixed taking into account the actual costs in the last three years.

(vii) Purchase of lands No powers No Change

3. CONTINGENCIES.

(i) Renting of private building Rs. 300 per month in the city and head-quarters and up to Rs. 200 per month in other places. Rs. 1,000 per mensem in Madras. Rs. 600 per mensem in Madurai, Tiruchirapalli and Coimbatore. Rs. 400 per mensem in other places. Same as Director .. Fifty per cent of the powers of the Joint Director.

(ii) Printing in private presses Rs. 500 at a time within the annual limit of Rs. 25,000. Non-Recurring Rs. 5,000 in each case. Recurring Rs. 1,000 per annum in each case. Non-Recurring Rs. 3,000 in each case. Recurring Rs. 500 per annum. Non-recurring Rs. 1,000 in each case. Recurring—Nil.

(iii) Binding of important records and registers. No powers.

(iv) Supply of refreshments Rs. 10 at a time Rs. 100 at a time .. Rs. 50 at a time .. Rs. 25 at a time

(v) Payment of demurrage and wharfage charges. Rs. 100 at a time Full powers .. Rs. 500 at a time. Rs. 100 at a time.

(vi) Local purchase of stationery and Printing stores. Rs. 50 at each case No change

(vii) Typewriters, Duplicators and numbering machines. } No powers Full powers .. Rs. 1,000 at a time. Rs. 100 at a time

(viii) Purchase and repairs of furniture

(ix) Bicycles For newly created offices and in the place of condemned cycles. Full powers

(x) Free supply of seeds pesticides and chemicals to poor and deserving ryots. Rs. 200. No change.

DELEGATION OF POWERS—cont.

ANNEXURE No. V.

Item.	Existing power of the D.A.	Proposed powers to		
		D.A.	Dt. Jt. Dir.	Taluk Asst. Dir.
(1)	(2)	(3)	(4)	(5)
		RS.	RS.	RS.
(xi) Books including non-Government publications and news-papers and periodicals.	Full powers .. .. .	.. .. .	.. .. .	.. .. .
(xii) Current consumption charges	Head of office has full powers	No Change.		
(xiii) Telephone charges	Do.	No change.	.. .. .	.. .. .
(xiv) Supply of seeds, plants, seedlings and cuttings etc. free of cost to other States in India for non-experimental purposes. ..	Rs. 10 in each case subject to an aggregate of Rs. 1,000 per annum.	Rs. 100 at a time	Nil.	Nil.
(xv) Purchase of maps .. .. .	.. .. .	No powers	Full powers ..	Full powers.
(xvi) Mounting of maps .. .. .	.. .. .	Rs. 20 in each case	Rs. 100 at a time. Same as D.A.	Rs. 50 at a time.
4. MOTOR VEHICLES.				
(i) Purchase .. .. .	.. .. .	No powers	No change ..	.. .. .
(ii) Repairs .. .. .	.. .. .	Rs. 500 at a time	To be revised upwards consulting MVMO.	
5. MISCELLANEOUS.				
(i) Seminars .. .. .	.. .. .	No power	Rs. 2,000 at a time.	Rs. 1,000 at a time. Rs. 500 at a time.
(ii) Exhibitions and Fairs .. .. .	.. .. .	Rs. 1,000 on single exhibition	Rs. 10,000 at a time.	Rs. 5,000 at a time. Rs. 1,000 at a time.
(iii) Inauguration and foundation stone laying functions.	No powers .. .. .	.. .. .	Rs. 1,000 at a time.	Rs. 500 at a time. Rs. 100 at a time

tiv) Cash awards and prizes	..	..	No powers	..	..	..	Full powers	..	Nil.	..
(v) Vanamahotsava and Cashew Day Celebrations.	..	..	No powers	..	..	..	Full powers	..	..	..
(vi) Law charges including payments of fees to pleaders.	..	..	(a) Rs. 100 in each case towards incidental charges on law suits. (b) No powers for payment of fees to pleaders.	..	..	..	No change	..	..	..
(vii) Compensation to accident victims	..	..	Rs. 1,000	..	..	..	Full powers	..	Nil.	Nil.
(viii) Training of Departmental Officers	..	..	Has powers for two specified courses	..	..	..	Full powers	..	Nil.	Nil.
(ix) Visits	..	..	No powers	..	..	..	(V.I.P. visits) Rs. 2,000 per annum.	Rs. 1,000 per annum. Rs. 500 per annum.	..	..